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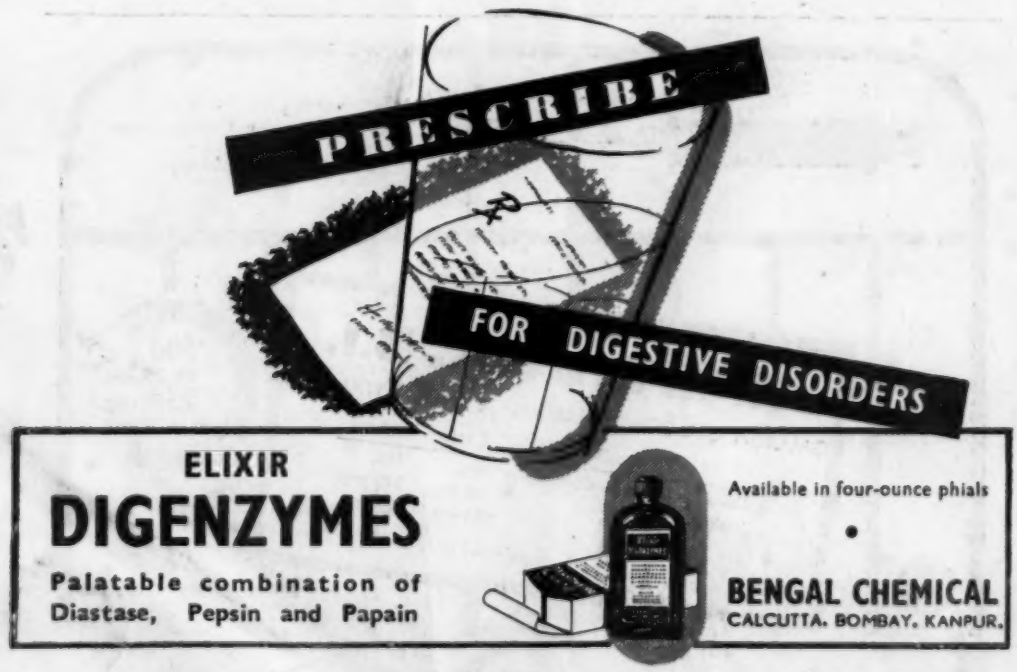

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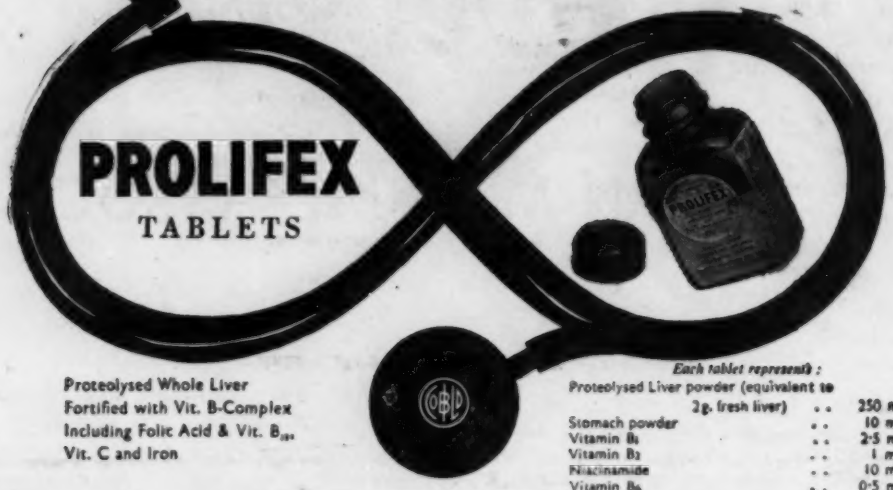

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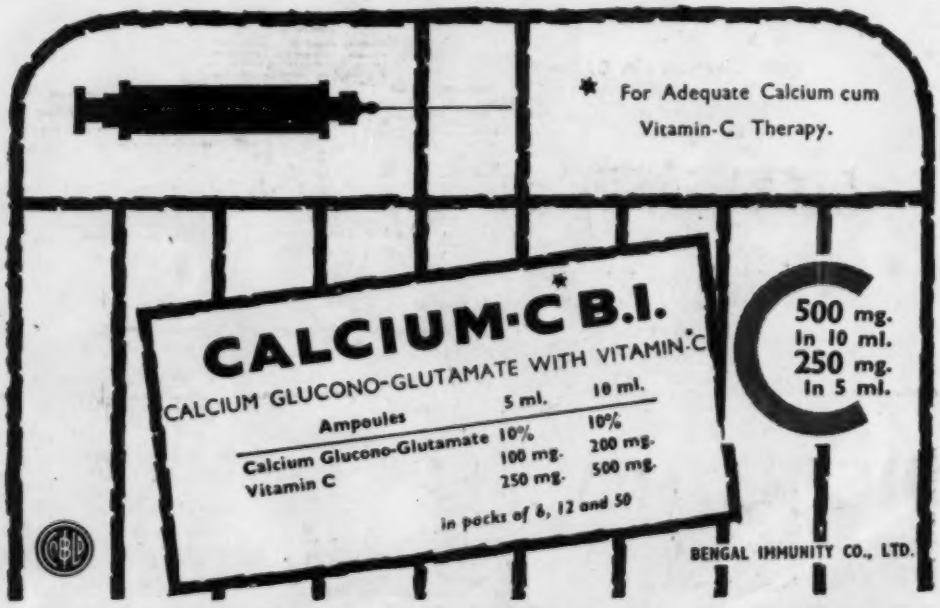
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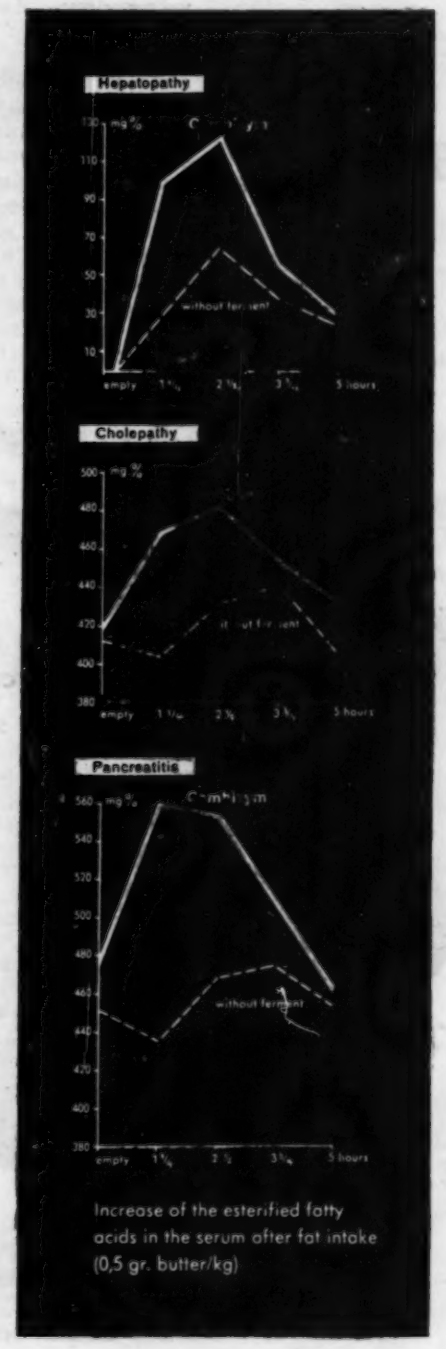

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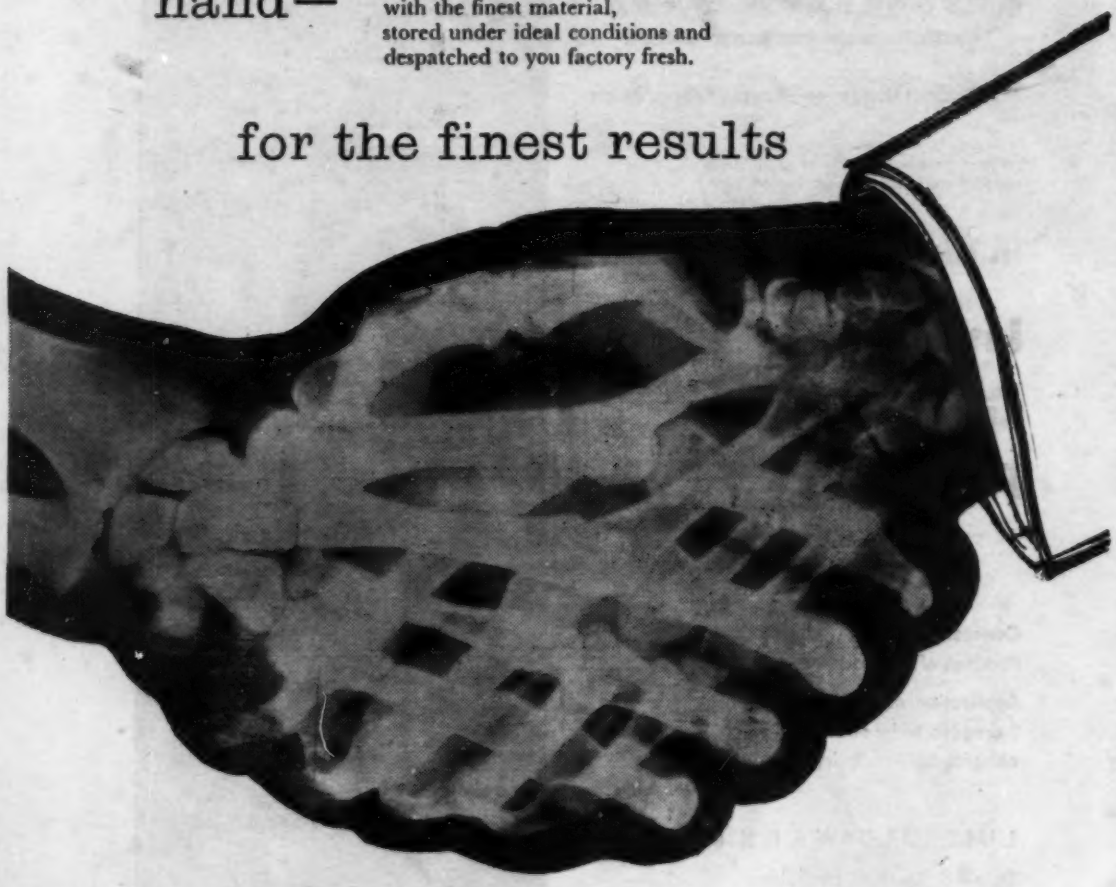

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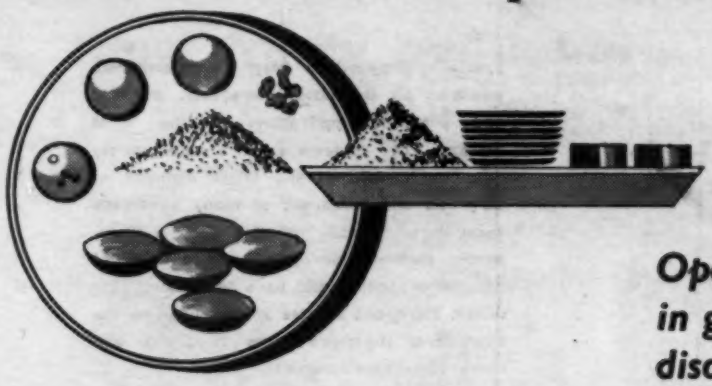

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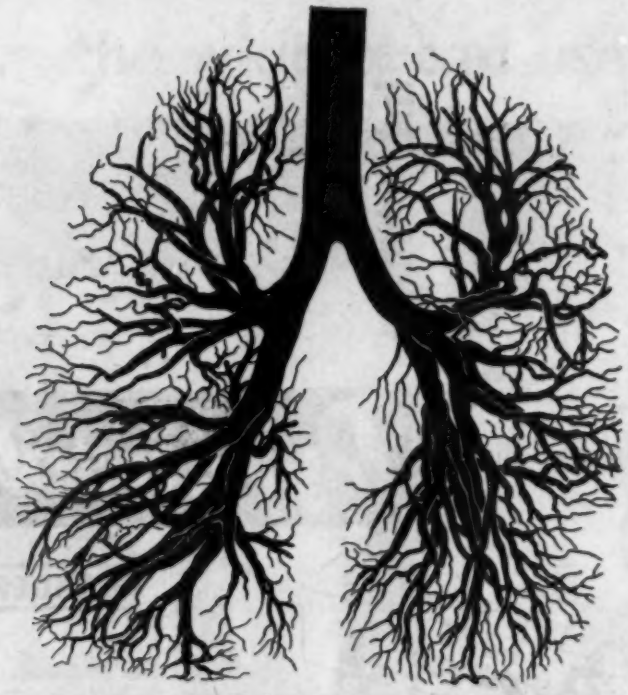

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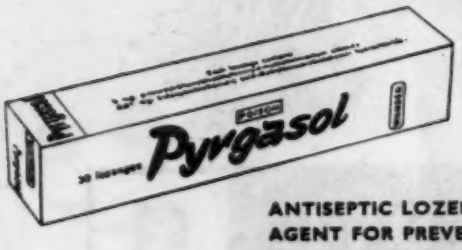

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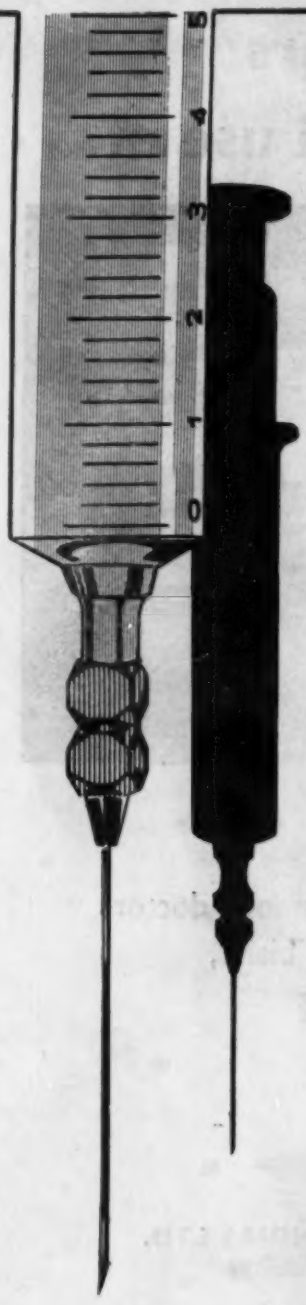

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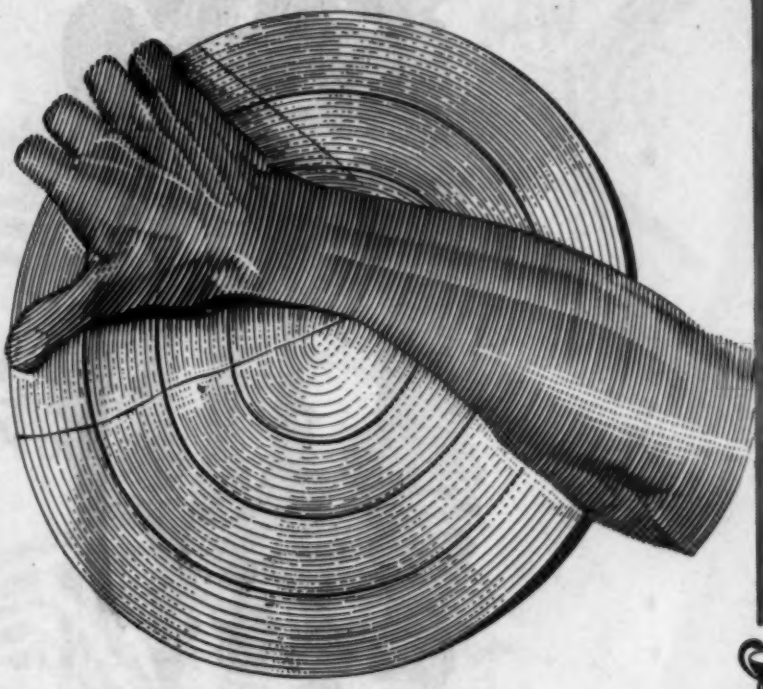

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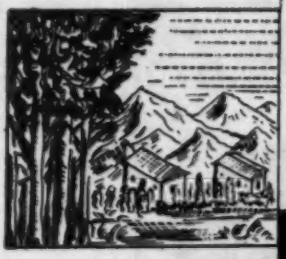

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ORIGINAL ARTICLES

A HISTOCHEMICAL STUDY OF CHOLINESTERASE IN FOETAL EXTRA-OCULAR MUSCLE

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In the skeletal muscle of the vertebrate, the neural transmitter at the motor end-plates is known to be acetylcholine. Cholinesterase, the enzyme which hydrolyses excess acetylcholine to inactivate it within the refractory period of the neuromuscular apparatus, is concentrated at the myoneural junctions. The enzyme studies by different authors indicate that for co-ordinated reflex movements, the presence of cholinesterase in adequate level is essential, although neurogenic muscular movements can occur as soon as cholinergic neurones have reached the developing muscle and have established an effective contact with the muscle fibres. It was, therefore, considered desirable, in the study of the development of the extrinsic muscles of the human eye, to determine the probable time when this enzyme first appears in these muscles during foetal life.

MATERIAL AND METHOD

The materials used in the study included fresh, unfixed medial rectus muscle. These were obtained from each of the orbits of 92, 110, and 200 mm. C. R. length human foetuses.

The distribution of the acetylcholinesterase at the myoneural junctions of the medial rectus muscle of the human eye was demonstrated by a simultaneous coupling azo dye technique. The technique adopted was essentially that devised by Lewis (1958) for the study of acetylcholinesterase distribution in whole mounts of thick specimens.

The main principle involved in the technique is the hydrolysis of α-naphthyl acetate by the acetylcholinesterase in the presence of a suitable diazonium salt. The released free α-naphthyl rapidly couples with the diazonium salt and a brightly coloured precipitate of an azo dye is produced at or close to the site of enzyme activity.

Details of the technique—

1. After removal (within 2-6 hours of death) the muscles were immediately fixed in 10 per cent formalin for 2-24 hours at 4°C.
2. Each muscle was thoroughly washed in tap water and whole mounts of thick specimens were prepared by dissecting small strips of muscle fibres from one end of the muscle to the other under a dissecting microscope.
3. After being treated for about half an hour in a buffered solution of a suitable diazonium salt, the strips of muscle fibres were transferred to a freshly prepared solution of diazonium salt, saturated with α-naphthyl acetate. When the muscle strips were adequately stained they were returned to the first solution for another half an hour.
4. Each strip was mounted in glycerol following a further fixation in formalin for a few days.

Alternative preparations of the material were also made by cutting sections at approximately 20 μ on the freezing microtome and transferring them to the solutions described above. A modified Bodian silver technique was then applied to these frozen sections to show up peripheral motor nerve endings at the motor end-plates which were already stained bright red by the azo dye.

Observations

92 mm. C. R. stage—The material at this stage shows little or no enzyme activity following the application of 'A simultaneous coupling azo dye technique' to a fresh, unfixed specimen of the medial rectus muscle from a foetus of this age, received some time after death (6 hours). Such negative evidence may be indicative of disappearance of the enzyme during the period which had elapsed since death. In the sartorius muscle of the same foetus, however, a reaction was obtained. It is, therefore, possible that the cholinesterase in the medial rectus muscle may not yet have become sufficiently concentrated to be demonstrable by the azo dye technique. In the material from the medial rectus muscle of the other side of this foetus the Bodian silver technique showed that motor end-plates were differentiating (Fig. 1, *vide* Plate).

110 mm. C. R. stage—In the medial rectus muscle at this stage enzyme activity was revealed (Fig. 2, *vide* Plate), though it was less than that in the 200 mm. specimen mentioned later and slightly diffuse in distribution.

Since each motor end-plate was shown by a deposit of azo dye it was possible to count their number in both whole mounts of thick specimens and in frozen sections of the muscle. The number of muscle fibres could also be counted approximately in this material and, hence, an estimate of the number of end-plate per muscle fibre was arrived at (Table 1).

Table 1—Showing Number of Motor End-Plates and Muscle Fibres in Esterase-Treated Sections of the Medial Rectus Muscle from the 110 mm. Foetus

Slide No.	Section	No. of motor end-plates	No. of muscle fibres
3. ...	(a)	14	16
	(b)	14	14
4. ...	(a)	16	18
	(b)	15	16
5. ...		23	25
7. ...		27	28

It is apparent from Table 1 that at this stage every muscle fibre had approximately one motor end-plate. As, however, the silver impregnated material showed varying degrees of development of the end-plates it would seem that morphologically less well-differentiated endings do, in fact, possess cholinesterase activity. Otherwise, this activity, may be a function of foetal age rather than of morphological differentiation of end-plate (Fig. 3, *vide* Plate).

200 mm. C. R. stage—In the material of this foetus, enzyme activity was high and localised discretely at the motor end-plates (Fig. 4, *vide* Plate). In frozen sections of this material, subjected to the Bodian technique, nerve fibres could be seen terminating in each patch of esterase activity (Fig. 5, *vide* Plate). Sole plate nuclei were concentrated in each of the myoneural junctions (Fig. 6, *vide* Plate). The number of such nuclei in each end-plate is either two or three. It is interesting to note that, in both the specimens including the 110 mm. one, the site of enzyme activity is mainly confined to the middle of the muscle which obviously suggests that the motor end-plates are located at this level of the muscle.

The number of motor end-plates and of muscle fibres were counted in each of the whole mounts of strips of this muscle. The material was subjected to the azo dye technique to reveal cholinesterase. The individual counts are given in Table 2 from which it is obvious that each muscle fibre has, on an average, one motor end-plate.

Table 2—Showing Number of End-Plates and Muscle Fibres in Strips of the Medial Rectus Muscle from the 200 mm. C. R. Length Foetus

Whole mount No.	No. of motor end-plates	No. of muscle fibres
21	26	25
22	13	11
23	32	30
24	25	24
25	15	15
26	30	28

Discussion

From the observations reported above on the distribution of cholinesterase in the medial rectus muscle of the human eye at successive stages of development it is seen that the concentration of cholinesterase at the motor end-plates of the muscle becomes more discrete and localised towards the later stages of development. The relationship between the enzyme and muscle fibre, which has been estimated as one to one, is, however, maintained throughout the series.

From the available account it appears that it was Marnay and Nachmansohn (1937, 1938) who made the first study on enzyme distribution in voluntary muscles of vertebrates. Their evidence indicates that the enzyme cholinesterase was actually concentrated at the myoneural junctions of the frog's sartorius muscle. Nachmansohn (1939 a, b) further showed that the distribution of cholinesterase in the developing chick embryo rises to a high level just at the time when the movements of the muscle were first observed. Couteaux and Nachmansohn (1938, 1940 and 1942 a, b) and Couteaux (1941) brought forward

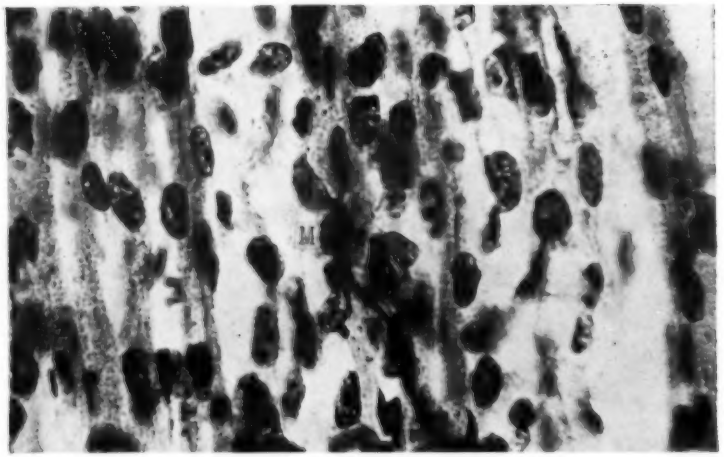

Fig. 1—Paraffin section (cut longitudinally) of the medial rectus muscle from the 92 mm. C. R. length foetus showirg coarsenirg of the motor endings and motor end-plate (M). (Bodian silver technique, × 780, oil immersion).

Fig. 2—Esterase-treated longitudinal section of fresh, unfixed specimen of the medial rectus muscle from the 110 mm. C. R. length foetus showing enzyme activity confined to the middle. (Azo dye technique, × 72).

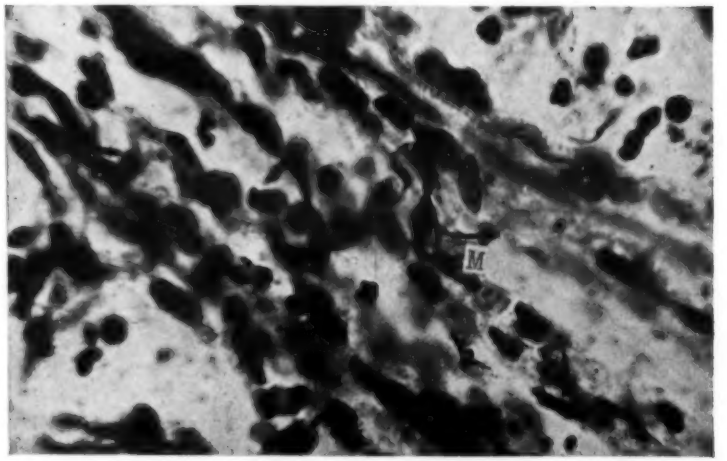

Fig. 3—Paraffin section (cut longitudinally) of the medial rectus muscle from the 110 mm. C. R. length foetus showing motor endings and motor end-plate (M). (Bodian silver technique, × 780, oil immersion).

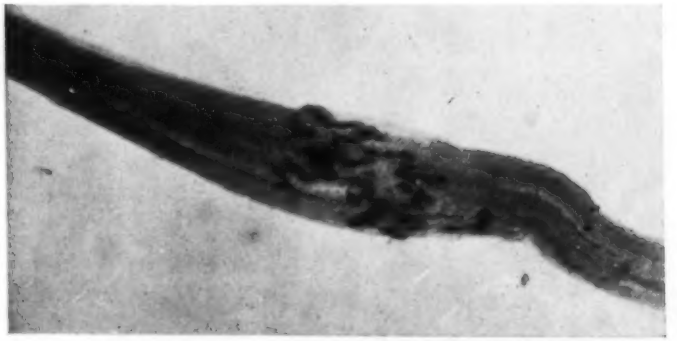

Fig. 4—Whole mount section of muscle strip of the medial rectus from the 200 mm. C. R. length foetus showing a high enzyme activity which is localised discretely at motor end-plates, usually in the middle of the muscle. (Stained for Esterase, × 72).

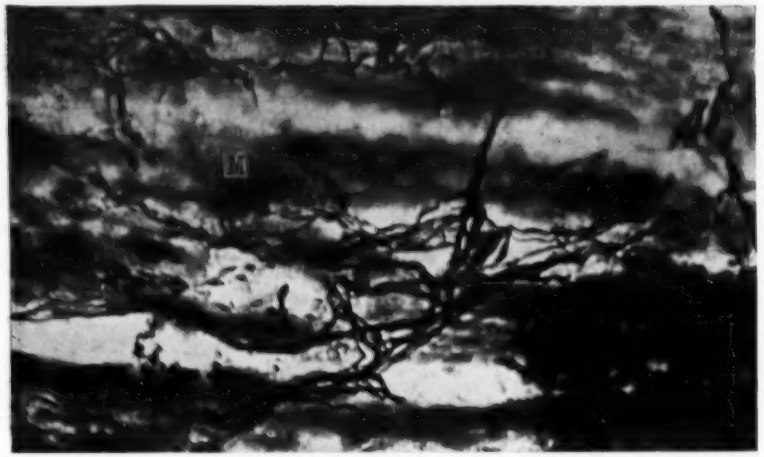

Fig. 5—Frozen section of fresh, unfixed medial rectus muscle of the 200 mm. C. R. length foetus. Section pretreated by azo dye technique and subjected to Bodian silver staining shows nerve fibres terminating in each patch of esterase activity. (Esterase stained-Bodian silver technique, × 280).

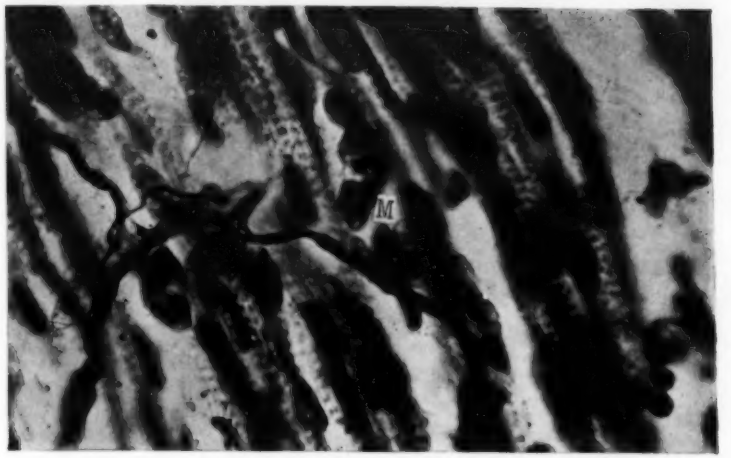

Fig. 7—Longitudinal section of paraffin embedded medial rectus muscle from the 200 mm. C. R. length foetus showing mature motor endings and motor end-plate (M) from a thick and darkly impregnated nerve. (Bodian silver technique, × 780, oil immersion).

LAHA—*A Histochemical Study of Cholinesterase in Foetal Extra-Ocular Muscle (p. 183)*

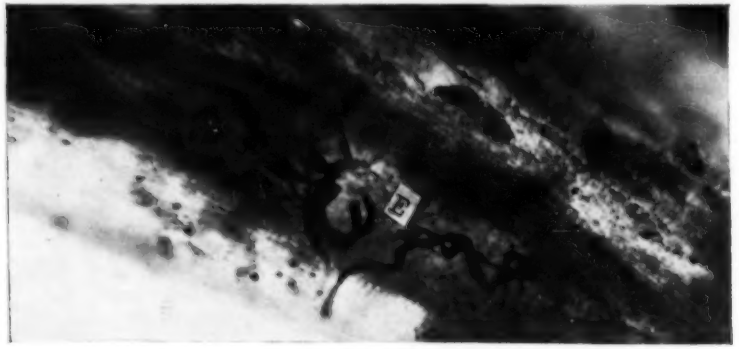

Fig. 6—Frozen section as in Fig. 5 shows nerve fibres terminating in each patch of esterase activity. Note some delicate "aberrant" endings (E) terminating in the motor end-plates along with their usual motor nerves.

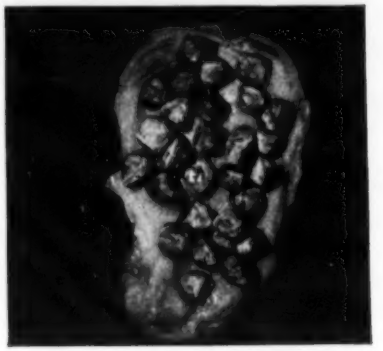

Fig. 1—Showing multiple faceted stones inside the gall bladder.

GUPTA AND ROY—*Acute Cholecystitis with Cholelithiasis in a Child (p. 195)*

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further evidence from a study of muscular atrophy subsequent to nerve degeneration in the guinea pig. They found in their material that most of the cholinesterase was on the muscle side and very little was actually in the nerve twigs. This was later re-investigated histochemically by Couteaux (1955). It was concluded that since most of the esterase was concentrated at the muscle side of myoneural junctions his recent subneural apparatus was therefore the locus of the esterase activity. Similarly, Kupfer and Koelle (1951), using a specific cholinesterase technique in the forelimb muscles of both foetal and adult rats, showed that cholinesterase was localised chiefly in the muscular portion of the sole and hence suggested that some of the end-plate nuclei were of muscle origin.

Lewis and Hughes (1957) found that after the establishment of a functional contact of developing somatic motor neurones with muscle fibres, the myoneural junctions became the seat of very high concentration of cholinesterase. They suggested that the enzyme was synthesised in the cell bodies of the neurones and was transported down the axon. Sawyer (1943) brought forward evidence that the cholinesterase concentration rose to a very high level with the commencement of S-flexure in *Amblystoma*. His observations therefore indicate that the degree of cholinesterase localisation is a biochemical index of functional capability in the neuromuscular apparatus.

In the present study it was found that the cholinesterase activity in the medial rectus muscle was high (Fig. 4, *vide* Plate) and was discretely localised to the myoneural junctions (Figs. 4 and 5, *vide* Plate) by the 200 mm. C. R. length stage (Laha, 1959). Hooker (1952) was able to elicit all the reflex eyeball movements by this time and he even emphasised that the movements are now stronger and more precise than before. The degree of the morphological differentiation of the neuromuscular connection seen in silver impregnated material of the 200 mm. C. R. length foetus (Fig. 7, *vide* Plate) appears to be adequate for such functional activity. From all such evidence the present study adds support to the conclusions drawn both by Sawyer (1943) and Hooker (1952). From the results of his histochemical studies, Schwarzacher (1957) presented evidence that the cholinesterase was concentrated at the middle of most skeletal muscles and that each muscle fibre possessed only one motor end-plate. The findings obtained in the present material provide sufficient evidence to justify such conclusion.

This study therefore establishes the significant correlation in the medial rectus muscle between the maturation of the motor end-plates, with their related motor endings, the concentration of the cholinesterase at the myoneural junctions, and functional capability as exhibited by stronger and more co-ordinated eyeball movements.

Summary

The distribution of cholinesterase in relation to the motor endings was studied by a simultaneous coupling azo dye technique in fresh, unfixed medial rectus muscles from foetuses at the 92, 110 and 200 mm. C. R. length stages. In the 92 mm. C. R. length foetus, little or no enzyme activity could be demonstrated though silver impregnated material of the same foetus showed that the motor end-plates were differentiating. In the 110 mm. C. R. length foetus, enzyme activity was revealed though it was relatively less than in the 200 mm. C. R. length specimen. In this last specimen, enzyme activity was high and was found to be localised discretely at the motor end-plates. In frozen sections of this specimen which were pretreated with the azo dye and then subjected to the Bodian technique, nerve fibres could be seen terminating in each patch of esterase activity. This progressive increase in cholinesterase distribution parallels the known augmentation of reflex eyeball movements in human foetuses. From this material, an estimate of approximately one end-plate per muscle fibre could be made.

Acknowledgments

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References

Couteaux, R.— *Bull. Biol.*, **75**: 101, 1941.
Idem—Internat. Rev. Cytol., **4**: 335, 1955.
Couteaux, R. and Nachmansohn, D.—*Nature*, **142**: 481, 1938.
Idem—Proc. Soc. Exper. Biol. & Med., **43**: 177, 1940.
Idem—Bull. biol., **76**: 14, 1942a.
Idem—Ibid, **76**: 18, 1942b.
Hooker, D.—Porter lectures, series 18, 1952, University of Kansas Press, Lawrence, pp. 64-76.
Kupfer, C. and Koelle, G. B.—*J. Exper. Zool.*, **116**: 397, 1951.
Laha, S. C.—*J. Anat. Soc. India*, **8**: 12, 1959.
Lewis, P. R.—*Quart. J. micro. Sci.*, **99**: 67, 1958.
Lewis, P. R. and Hughes, A. F. W.—Metabolism of the Nervous System, 1957, Pergamon Press, London.
Marnay, A. and Nachmansohn, D.—*J. Physiol.*, **89**: 359, 1937.
Idem—Ibid, **92**: 37, 1938.
Nachmansohn, D.—*Bull. Soc. chim. biol. Paris*, **21**: 761, 1939a.
Idem—J. Physiol., **95**: 29, 1939b.
Sawyer, C. H.—*J. Exper. Zool.*, **92**: 1, 1943.
Schwarzacher, H. G.—*Acta. Anat.*, **30**: 758, 1957.

STUDIES ON PROTHROMBIN TIME AND ASSESSMENT OF DIFFERENT FACTORS OF COAGULATION IN INFECTIVE HEPATITIS AND CIRRHOSIS

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Introduction

The liver synthesises the proteins involved in the various stages of coagulation and it has been a very common laboratory practice to assess the state and status of any hepatic damage by the conventional one-stage 'prothrombin time' (Sherlock, 1958). Prothrombin time (P.T.), as measured in most laboratories, is an expression of the over-all mechanism and speed of coagulation in a given sample of plasma under some controlled conditions of the reaction. A prolonged P.T. may indicate only a deficient process in the final analysis of the coagulation, but it hardly points out that specific defect in the quantity and the quality of the factors participating in the process. Some attempts have been made in assessing the state of individual factors for coagulation in liver diseases (Stefanini, 1950 ; Biggs and MacFarlane, 1957 ; Quick, 1959) but the mechanism of the defect induced has not been suggested.

Infective hepatitis and portal cirrhosis are common diseases of the liver in India and in view of the possibility of a causal relationship, an investigation of the state of coagulative factors in these pathologic entities in their various progression and regression seemed warranted. It has been previously (Chatterjee *et al*, 1959) shown that the conventional one-stage P.T. when carried out at 20 per cent dilution of the sample plasma diluted with barium sulphate treated normal pooled plasma (as diluent), is a reliable index, at a more significant level, of the stage of damage of hepatic functions. This paper presents additional data on the subject.

Methods and Materials

Collection of plasma—Blood samples were collected by venipuncture using sodium oxalate as non-coagulant in the proportion of 0·1 ml. 0·1 M/ml. blood. The chilled blood was then centrifuged at 3,000 r.p.m. and plasma separated. For the collection of serum, blood samples were allowed to clot and kept at 37°C in water bath for 2 hours. Serum was separated by centrifugation from the clot and collected. Separated plasma and serum samples were stored in ice-pack.

Preparation of plasma diluent—Plasma samples, pooled and individual, were treated with barium sulphate 100 mg./ml. as described by Dacie (1956) and the prothrombin-free plasma diluents were freed from the adsorbent by centrifugation. The clear diluents were used to dilute the prothrombin contents of the test plasma samples to the desired ranges.

Preparation of thrombokinase emulsion—Giegy's thrombokinase tablets were employed in this study. The tablets were crushed to fine powder and the powder emulsified in glass distilled water in the proportion of 2·5 ml. water per tablet. The water suspension was then incubated at 37°C in water bath for 15 minutes for its activation. The activated emulsion was employed in the determination of one-stage P.T.

Determination of prothrombin time—Test plasma samples were mixed with homologous and normal (pooled) plasma diluents in the proportion of 1 : 4 so as to effect dilutions of prothrombin contents in them to a level of 20 per cent. Similar dilutions were also prepared by using serum, homologous or pooled-normal, instead of plasma diluent. Each test plasma sample therefore had four mixtures at 20 per cent prothrombin content, viz., (i) plasma diluted with homologous plasma diluent (PPD), (ii) plasma diluted with pooled-normal plasma diluent (PND), (iii) plasma diluted with homologous serum (PS) and (iv) plasma diluted with pooled-normal serum (PNS). Each mixture was tested for its prothrombin time in the following manner : To 0·1 ml. of plasma mixture was added 0·2 ml. of activated thrombokinase suspension at 37°C in water bath. The mixture was then constantly stirred by a hooked glass rod and the P.T. was timed (in seconds) from the addition of emulsion to the formation of a fine clot which could be fished out of the mixture. Determinations of P.T. were done in triplicate for each sample mixture of plasma and the mean value was taken as the P.T. of the sample.

Titration of 'Factor VII' in serum—Normal serum samples were pooled and treated with barium sulphate (as done with plasma, described above) in the proportion of 100 mg./ml serum. Such treated samples were then utilised as 'serum diluents' to dilute any given serum of its 'Factor VII-content' to the desired levels as indicated in Table 1.

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TABLE 1—SHOWING THE PROPORTION OF REAGENTS TO PRODUCE GRADATION OF FACTOR VII CONTENT IN SERUM

Reagents added	Tubes					
	1	2	3	4	5	6
Serum sample to be titrated (ml.) ...	0·5	0·4	0·3	0·25	0·2	0·1
Serum diluent (ml.)	0·0	0·1	0·2	0·25	0·3	0·4
Dilution of Factor VII content (%) ...	100	80	60	50	40	20

These mixtures with different dilutions of Factor VII were then employed as graded sources of Factor VII provided by the serum sample used for the titration. The end-points were determined by their respective P.T. done with the mixture of reagents added in the following proportions (cf. Table 1):

Normal plasma	0·10 ml.
Normal plasma diluent ...	0·15 ml.
Serum mixtures	0·25 ml.

The P.T. was determined in the same way as described above using 0·1 ml. of these plasma-serum mixtures and 0·2 ml. of activated thrombokinase emulsion. Each serum sample to be titrated had six mixtures containing gradations of Factor VII from a range of its own 50 per cent to 20 per cent. When results of P.T. were plotted against the logarithms of serum dilutions, Factor VII contents of different serum samples could be compared.

SELECTION OF CASES AND RESULTS

Table 2 indicates the respective P.T. at 20 per cent with homologous and normal plasma/serum. It will be apparent from the data that P.T. in infective hepatitis and cirrhosis with ascites was very significantly prolonged with homologous plasma diluents. Normal plasma diluents could correct that slowing to some extent in infective hepatitis but not in the least in cirrhosis with ascites. P.T. with homologous serum was also prolonged in infective hepatitis though not as bad as with cirrhosis with ascites. Correction of the deficiency with normal serum was more effective with infective hepatitis than with cirrhosis with ascites.

Cirrhosis without ascites did not show deviation in the P.T. range from the normal pattern. It should be remembered that P.T. with plasma-normal diluent mixtures (PND) indicated very often higher values, both in cirrhosis with ascites and without ascites, from their respective P.T.

TABLE 2—SHOWING PROTHROMBIN TIME OF PLASMA DILUTIONS AT 20 PER CENT PROTHROMBIN LEVEL DILUTED WITH PLASMA DILUENTS AND SERUM SAMPLES

Clinical entity	PPD	PND	PS	PNS
Normal	—	31 ± 5	—	26 ± 3
Infective hepatitis ...	51 ± 18	47 ± 17	39 ± 15	32 ± 9
Cirrhosis with ascites	52 ± 18	55 ± 16	51 ± 15	43 ± 12
Cirrhosis without ascites	37 ± 6	40 ± 8	33 ± 4	29 ± 6

Results are indicated as means ± Standard deviation (seconds).

with plasma-homologous plasma diluent mixture (PPD). The higher means further indicated the suggestive trend towards individual titrations. Fig. 1 demonstrates that the scatter in the P.T. value in the clinical entities studied and the wide scatters in the pathologic states are apparent.

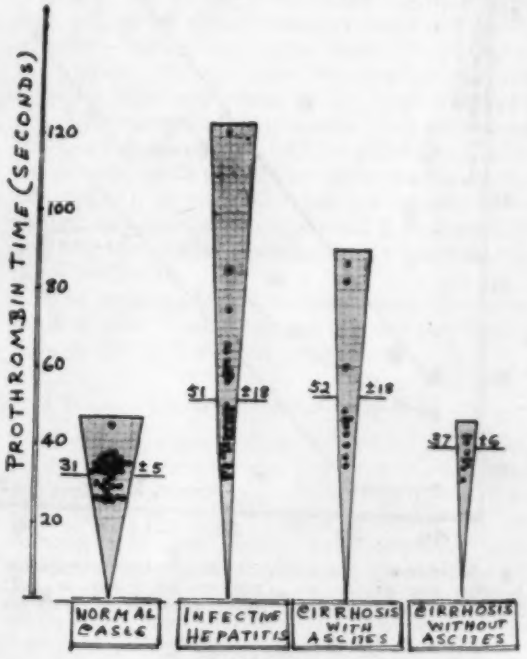

FIG. 1—SHOWING THE SCATTER IN THE P.T. VALUES IN NORMAL SUBJECTS AND IN INFECTIVE HEPATITIS AND IN CIRRHOSIS WITH OR WITHOUT ASCITES

Fig. 2 shows the slopes in the titrations of serum samples for their Factor VII contents in terms of P.T. expressed against the log dilutions of serum mixtures (*vide* details and methodology).

It would be clear from the curves that normal serum mixtures even at the level of 30 per cent dilution were good enough in Factor VII content to maintain the optimum P.T. at the tested prothrombin level (20 per cent), but lower beyond that range, the dilutions showed limiting concentrations of Factor VII which slowed the P.T. as a function of the dilutions. Curve II (Madan) indicates the status of Factor VII in a case of moderate infective hepatitis, while Curve III (Somawati) represents the findings in a case of severe infective liver damage with ascites and jaundice. Gradations of the slopes in these curves approaching the normal pattern in proportion to the severity of the pathology concerned are also apparent in Fig. 2.

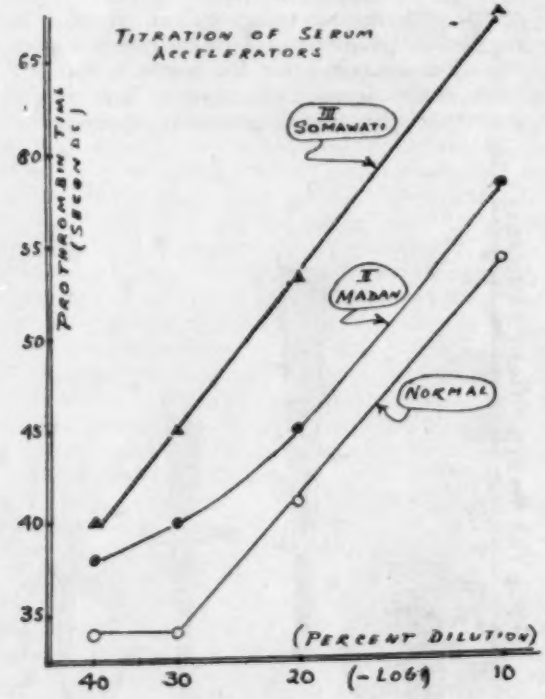

FIG. 2—SHOWING THE SLOPES IN THE TITRATIONS OF SERUM SAMPLES FOR FACTOR VII CONTENTS IN TERMS OF P.T. EXPRESSED AGAINST THE LOG DILUTIONS OF SERUM MIXTURES

DISCUSSION

A longer P.T. as measured by the one-stage method is the sum total effect of the defect in the clotting mechanism, the cause could rest amongst others with the deficiencies in prothrombin, Factor V and/or Factor VII. The prolonged P.T. in infective hepatitis (51 ± 18 seconds) and cirrhosis with ascites (52 ± 18 seconds) in comparison to the corresponding normal range (31 ± 5 seconds) could then be due to the deficiencies in prothrombin, Factor V and/or Factor VII. If it was Factor V, P.T. with PND should have come back towards the normal range. Though it did recover a little in infective hepatitis, it was worse with cirrhosis cases. Reasons for this apparent wasting effect of normal plasma diluent on the clotting of cirrhotic plasma cannot be offered and need further investigation. It would thus appear that deficiency of Factor V could be hardly responsible for longer P.T. reported here. Factor V deficiency in hepatic damage has been reported by Stefanini (1950) and it has been pointed out by Owren (1949) to be of bad prognostic value. But lack of any significant deficiency in Factor V, even in some of the severe cases of hepatic damage studied herein, may however point out that the deficiency in Factor V could be more related to the quality than the quantity of the pathological involvement of hepatic cells. A more detailed study on this subject is warranted.

The state of Factor VII level in plasma getting involved in infective hepatitis and cirrhosis with ascites is more definitive, however, than that of Factor V. Serum being a good source of Factor VII, normal serum could correct the lag in clotting, particularly completely in plasma from infective hepatitis, though to a much lesser degree in cirrhosis with ascites. It thus appears that deficiency in infective hepatitis is more of Factor VII and none or little of prothrombin or Factor V, while in cirrhosis with ascites the deficiencies is both in Factor VII and prothrombin but none in Factor V. The graded deficiency in Factor VII is in proportion to the degree of hepatic involvement in infective hepatitis. It becomes much more clear in Fig. 2.

We desire to emphasise one point regarding the marked difference in the status of P.T. with plasma samples from cirrhotics, with and without ascites. Speaking from the point of view of P.T., cirrhosis with ascites appears to have a more severe pathology than cirrhosis without ascites. Deficiency of Factor VII and prothrombin are more marked in the former than in the latter. Operative risk on portal cirrhosis with ascites has been observed to be greater than it is with cases without ascites (Blakemore, 1952). For the selection of cases for operation and assessing the post-operative risk, the methods described suggest further trial.

SUMMARY

1. Status of prothrombin time at 20 per cent prothrombin concentration of plasma in infectious hepatitis and portal cirrhosis with or without ascites has been investigated. Values in infectious

hepatitis (51 ± 18 seconds) and cirrhosis with ascites (52 ± 18 seconds) have been found to be significantly prolonged from the normal range (31 ± 5 sec.) while in cirrhosis without ascites (37 ± 6 seconds) prothrombin time is more or less around the normal.

2. Deficiency in the plasma in cases with prolonged P.T. appears to be primarily of Factor VII in infectious hepatitis and both of Factor VII and prothrombin in cirrhosis with ascites.

3. A method for the titration of Factor VII in serum has been described and the slope of titration tends to show a co-relation with the severity of hepatic damage in infectious hepatitis.

ACKNOWLEDGMENT

The authors wish to register their sincere thanks to their colleagues for their active co-operation and keen interest in the work. Sincere thanks are specially due to Shri Tara Chand Saini for his valuable technical assistance. They are also grateful to Col. B. L. Taneja, Principal, Maulana Azad Medical College, New Delhi, for his kind encouragement and other help in the prosecution of the study.

REFERENCES

BIGGS, R. AND MACFARLANE, R. G.—Human Blood Coagulation and Its Disorders, Second Edition, 1957, Blackwell, Oxford.

BLAKEMORE, A. H.—*Surg. Gynec. Obstet.*, **94** : 443, 1952.

CHATTERJEE, T., SHAH, N. S., HUSSAIN, QAMAR ZAFAR AND CHAUDHURI, S. N.—*J. Maulana Azad Medical College*, **1** : 45, 1959.

DACIE, J. V.—Practical Haematology, 1956, Churchill, London.

OWREN, P. A.—*Scandinav. J. Clin. & Lab. Invest.*, **1** : 131, 1949.

QUICK, A. J.—Haemorrhagic Diseases, 1959, Lea & Febiger, Philadelphia.

SHERLOCK, S.—Diseases of the Liver and Biliary System, Second Edition, 1958, Blackell, Oxford.

STEFANINI, M.—International Society of Haematology, Third International Congress, 1950, p. 484.

VAGUS INHIBITION AND VAGUS ESCAPE

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The fact that vagal fibres are cardio-inhibitory was discovered by Weber brothers in 1845. Generally strong vagus stimulation stops the action of the auricles, and in such cases the ventricles also stop beating. This is due to its chronotropic and dromotropic effects. In the mammals the right vagus is chiefly chronotropic and the left vagus dromotropic.

The action of the vagal fibres on the heart is almost identical in frogs and mammals. The vagus in the frogs is a vagosympathetic trunk, but we do not know if there is any such selective distribution of the chronotropic and dromotropic fibres in the right and left vagus nerves.

Very often after a short pause during vagal inhibition, the ventricles commence to beat at a slow (idioventricular) rhythm. This phenomenon, called vagus escape, is generally confined to the ventricles. This phenomenon cannot be explained with entire satisfaction.

Distension of the cardiac chambers by the blood accumulated during the period of cardiac quiescence is probably a factor, acting through the accelerator reflex. There is some evidence that acceleration of acetylcholine destruction is concerned in the escape phenomenon. It is possible that continuous stimulation may cause exhaustion of acetyl choline, or that the heart gets refractory to its effect. There is proof that acetylcholine soon loses its inhibitory effect on the heart. Stimulation after injecting acetylcholine produces a much less marked effect than without injection. It has been found that the escape phenomenon greatly diminished after adrenalectomy and excision of the stellate ganglia, and it is believed that adrenaline and the sympathetic nerves play an essential role in its production.

The present work was undertaken to explore some of these possibilities and to see if any further light could be thrown on this subject.

MATERIAL AND METHOD

The local species (*Rana tigrina*) of frogs were used. The right and the left vagus nerves were stimulated separately, and the interval of time from the moment the heart stopped in diastole till the occurrence of vagus escape, was measured. Adrenaline 1 ml. (1 in 10,000) was injected into the sinus, and after 5 minutes the vagus nerves were restimulated separately, and the time interval was measured as above till vagus escape occurred.

RESULTS

The details of each observation have been noted (Table 1). 25 frogs were used. In 11 of them the interval before vagus escape could develop was longer with the left vagus and in 10 it was longer with the right vagus. In 4 cases the nerve on one

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side or the other was cut, and so these were included only for showing the effects before and after administration of adrenaline.

TABLE 1—SHOWING THE TIME INTERVAL IN SECONDS FOR VAGUS ESCAPE TO APPEAR

Frog No.	Before adrenaline		After adrenaline	
	Right vagus	Left vagus	Right vagus	Left vagus
1 ...	120	117	164	—
2 ...	248	102	45	77
3 ...	3	7	8	44
4 ...	19	262	3	43
5 ...	102	59	138	128
6 ...	76	512	26	49
7 ...	100	86	49	10
8 ...	185	216	80	44
9 ...	167	200	75	47
10 ...	100	80	40	5
11 ...	72	435	25	47
12 ...	95	55	125	120
13 ...	30	250	0	42
14 ...	3	7	5	45
15 ...	145	95	44	72
16 ...	110	148	150	170
17 ...	365	390	74	43
18 ...	122	185	35	60
19 ...	355	35	50	4
20 ...	80	55	34	36
21 ...	612	312	8	6
22 ...	175	—	61	—
23 ...	—	164	—	37
24 ...	160	—	55	—
25 ...	690	—	140	—

Due to the effect of adrenaline, in 18 cases (72 per cent) the specified interval was shortened and in 7 cases (28 per cent) the interval was found to have increased. Whether increase or decrease, the relative time interval was always similar on stimulation of either the right or left vagus (Fig. 1).

DISCUSSION

Variation in the time interval before vagus escape could appear with reference to the right and left vagus stimulation, may possibly be due to selective distribution of chronotropic and dromotropic fibres. Stimulation of the dromotropic fibres would give a more effective auriculoventricular block, as compared to stimulation of the chronotropic fibres. If vagus escape is explained on the basis of 'idioventricular rhythm', the above observation should indicate a predominance of the dromotropic fibres on the side, stimulation of which gives earlier onset of vagus escape.

Distension of the cardiac chambers as a possible cause of the vagus escape could be excluded, in view of the variation in the interval before vagus escape appears by stimulation of the right and left vagus. The greatest difference in our observations was 19 seconds with the right vagus, as against 262 seconds with the left vagus. Moreover, since the frogs used were pithed, the possibility of a reflex effect does not exist.

Exhaustion of acetylcholine or the heart getting refractory to the effect of acetylcholine, also cannot explain the phenomenon of vagus escape. Wide variations in the time interval while stimulating the vagus on two sides in the same animal, challenges such a conclusion. Very often the first nerve

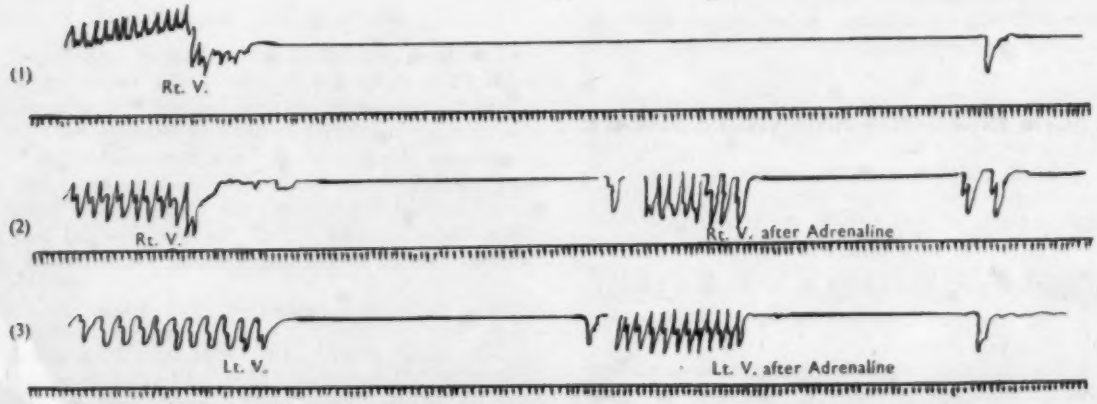

FIG. 1—DIAGRAMMATIC REPRESENTATION OF GRAPHS SHOWING ONSET OF VAGUS ESCAPE

(1) Effect of right vagus stimulation; (2) Effect of repeating right vagus stimulation followed by right vagus stimulation after adrenaline; (3) Effect of left vagus stimulation followed by left vagus stimulation after adrenaline

stimulated gave a shorter time, and subsequently stimulating the opposite nerve gave a longer interval. Moreover, in 28 per cent of cases it was observed that after adrenaline the intervals were actually increased. However, on repeated stimulation the interval becomes shorter, but the difference of the right and left vagal stimulations persists.

Adrenaline and sympathetic nerves are said to play an essential role in the production of vagus escape. Our efforts to confirm this demonstrated varied results. In 72 per cent of cases, adrenaline caused a shortening of the interval before vagus escape appeared, however in 28 per cent of cases the interval was longer.

The vagus is a vagosympathetic trunk, and the sympathetic fibres may be more predominant on the right or the left side. This fact may also contribute to the difference in time interval for vagus escape to appear on stimulating the vagus nerve on the two sides.

In view of all these views and observations we feel that the onset of vagus escape could best be explained by development of the idioventricular rhythm. Probably a predominance of dromotropic fibres causes earlier onset of this rhythm and adrenaline by its local action on the ventricular muscle facilitates this to a great extent. In the majority of cases (72 per cent) this explanation stands good, but in 28 per cent of cases the period after adrenaline was actually increased. As such, an absolute and undoubted explanation remains to be sought. Possibly one factor alone is not contributory.

Summary

Vagal inhibition and time taken for vagus escape to develop was studied in 25 local frogs. The difference between right and left vagal stimulations was observed, and the effect of adrenaline in facilitating vagus escape was also studied. Idioventricular rhythm as a cause for vagus escape appears more plausible, but it cannot be accepted as the sole factor.

As there is some evidence of an adrenaline-like substance being liberated in the perfusate of an isolated heart treated with acetylcholine it is quite likely that adrenaline, directly or secondarily through the acetylcholine mechanism, is responsible for the vagus escape.

Acknowledgment

We thank Dr. G. V. Barve, Principal, B. J. Medical College, Ahmedabad, for the facilities given for carrying out this work.

PRACTITIONERS' SERIES

MANAGEMENT OF SUPRACONDYLAR FRACTURE OF THE HUMERUS

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One of the commonest fractures encountered in general practice is the supracondylar fracture of the humerus. It is very common in children in the age group 2-10 years. It should be suspected in any child who has sustained injury of the elbow unless it is proved otherwise by skiagraphy. Dislocation of the elbow is more commonly seen in adults and rarely in children. Management of such a condition is not easy. It requires proper judgment and careful technique. Details of the management may be helpful for the general practitioner.

Varieties—The usual type is the posterior or extension type which is sustained by a fall on the outstretched hand. Here the lower or distal fragment is pushed posteriorly and upwards with anterior angulation and side-to-side displacement.

The other type is the anterior or flexion type which is sustained if the injury occurs in a flexed elbow, which is very unusual. Here the lower fragment is pushed anteriorly and upwards with side-to-side displacement.

Diagnosis

The diagnosis of supracondylar fracture is easy from a history of fall on the outstretched hand and localised bony tenderness on the supracondylar region of the humerus and the presence of an obvious deformity. During clinical examination, palpation of the radial pulse and examination for involvement of nerves such as the radial, median and ulnar, should not be omitted. If the patient can make a fist, the natural conclusion is that all the nerves are intact.

Skiagraphy should be done as early as possible in any injury at the elbow.

Treatment

First aid—The first-aid treatment is very important, as unskilful manipulation and too much flexion at this stage will invite vascular

complications like gangrene and Volkmann's ischaemic contracture. A posterior cast from above the insertion of the deltoid to the knuckles should be made with the elbow flexed at about 90°, so that the radial pulse is palpable. Elevation of arm and active finger movements should be advised to obviate subsequent swelling.

Reduction of the fracture—Reduction should be done under general anaesthesia. During manipulation the different elements of displacement should be corrected. The tissue hinge provided by the triceps and the intact periosteum posteriorly should be respected, and sustained traction in the axis of the humerus with the elbow straight or only slightly flexed and counter-traction from above should be given for 4-5 minutes. When the posterior displacement has been corrected, the side to side displacement should next be corrected before flexion is done. This is an important step, because in a flexed elbow, the lateral displacement is difficult to correct and even remains masked, with chances of late valgus or varus deformity of the elbow joint. Not only this, if flexion is made before correction of side to side displacement, the taut triceps acts as a barrier for proper reduction of this lateral or medial displacement. One of the common causes of failure of reduction is inefficient traction and attempts at early correction of posterior displacement. Such practice is dangerous, for it might cause vascular injury. Sustained traction in the long axis of the humerus is a very important technique, as it not only corrects the posterior displacement but the anterior angulation of lower fragment and also to a certain extent the side to side displacement. It helps to release the presence of soft tissues in front of the elbow joint.

Exaggeration of the deformity by hyper-extention at the fracture site by extending the elbow has been recommended by some surgeons, but this is not necessary in recent cases. It is only helpful in delayed cases where some amount of sticky union has already taken place.

The optimum time of reduction should be as early as possible after injury and before the development of oedema. In a grossly swollen elbow, elevation and active finger movements should be advised for sometime (24 hours) before attempting reduction.

The amount or degree of flexion should be 45° beyond the right angle or more, depending on the swelling present. Flexion should be easy and not resistant. After flexion, the radial pulse should be palpable and capillary circulation should be present in the finger tips.

The question of reduction in a swollen and tense elbow is sometimes disputed, but it has been found that if reduction can be done, the swelling and tenseness subside remarkably in a short time, even within 24 hours.

The clinical tests of reduction are (1) presence of radial pulse and capillary circulation in finger tips, (2) hitching of lower fragment which becomes fairly stable when moved from side to side, (3) palpation of lower fragment revealing that it is in line with the upper fragment, and (4) the position of the point of the flexed elbow remaining in the middle line of the humerus.

Plaster technique—The plaster cast or casing, whichever is necessary, should extend from above the insertion of the deltoid to the knuckles. During the application of plaster, the flexed forearm should be supinated and pointed towards the coracoid process of the same side. This gives the correct axis and prevents rotational deformity between the fragments. The plaster bandage should not press upon the flexed crease of the elbow anteriorly. This should be protected by cotton wool. Padded plaster casing, specially over bony points, is desirable in outpatients. Blister should be dressed with sterile vaselin gauze or penicillin tullae grass or sterile sulpha powder before application of plaster. A change of plaster is sometimes necessary when oedema has subsided and the casing has become very loose.

The technique for the less common type of supracondylar fracture is almost similar, except for the position of extension, instead of flexion, during fixation by plaster of Paris casing.

A post-reduction x-ray is essential to check and correct angulation of lower fragment ; otherwise limitation of movement and cubitus valgus or varus will develop. Alignment of fragments should be in parallel axis, if end-to-end apposition is not possible. Angulation and tilting of lower fragment must be corrected.

Advice during plaster period—Elevation of the limb and active finger movement should be advised for 24-36 hours depending on the oedema, followed later by exercise of shoulder and finger movements. The plaster should be slit open completely in those patients who complain of intense pain and show circulatory disturbances such as increase of oedema, cyanosis of finger tips and appearance of blisters. These are early signs of Volkmann's ischaemic contracture, and even of gangrene.

Advice should also be given regarding the general toilet and care of plaster casing. Soakage with water should be prevented during bathing.

Rehabilitation—After 4 to 6 weeks, the plaster is removed and the elbow kept in a sling at a comfortable angle, and active use of limb advised. The sling is to be lengthened by 1 to 2 inches at a time every 4th day depending on recovery of movement at the elbow joint. The normal time for complete function to return is about 6 weeks, after removal of plaster. No massage or weight lifting, as lifting bucketful of water, should be advised for fear of development of myositis ossificans.

Contrast bath will hasten the return of movements of elbow in some resistant cases provided no bony block is present.

During this period a careful watch should be kept to detect early cases of myositis ossificans. These cases show improvement after removal of plaster but suddenly develop limitation of extension, and on examination a tender spot will be found on the origin of flexor groups or brachialis insertion. A sling or cast for a week or two, in these early cases, stops further mischief. If they remain undetected and passive movements and massage are done inadvertently, a full-fledged picture of myositis ossificans develops, which means prolonged treatment for months.

Complications

Primary complications over which the surgeon has no control is Volkmann's ischaemic contracture from brachial artery contusion, causalgia, epiphyseal injury and primary lesions of the ulnar, median or radial nerves.

Secondary complications of vascular obstruction due to acute flexion, inadequate reduction or application of tight encircling bandages, should be avoided. Other complications are myositis ossificans, frozen shoulder, ankylosis of elbow and secondary nerve lesions due to forcible stretching or manipulation to get back early movement.

Prognosis—The prognosis of supracondylar fracture is good, especially in children. The joint function should be normal. It is essential to achieve correct alignment of fragment rather than apposition without any angulation and with proper tilt. Remodelling of fragment takes place in children resulting in good function, inspite of immediate radiological displacements of fragment and excessive callus formation. Epiphyseal damage may cause growth disturbances later on, causing valgus or varus type of deformity of the elbow for which corrective osteotomy may subsequently be necessary.

CASE NOTES

ACUTE CHOLECYSTITIS WITH CHOLELITHIASIS IN A CHILD

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Acute cholecystitis in childhood is very rare and may be considered as a curiosity. The number of cases reported in the literature is very small. During his 26 years of experience in the surgical treatment of 5307 patients with non-malignant disease of the biliary tract, Glenn (1959) reported only 8 cases under 16 years. In the experience of Gross (1953) from the Boston Children's Hospital, only 6 patients under 14 years were operated for cholelithiasis. In 122 consecutive cholecystectomies carried out in the Eastern Railway Hospital at Dinapore and Calcutta, the following report of a case of gallbladder disease occurring in a 9 year (8 year 11 months) old girl is considered of sufficient interest for documentation.

Case Report

A girl, aged 9, was admitted into the hospital with complaints of severe pain in the right hypochondrium associated with vomiting for the past 2 days. The pain was acute and colicky and was localised in the right hypochondrium but not radiating to the back or shoulder. It had no relation to food. There was a previous history of such an attack 6 months ago for which she received conservative treatment in the hospital with good response. The patient had been suffering from attacks of pain in the right hypochondrium for the past 2 years. There was no history of jaundice or any prolonged fever.

Clinical examination revealed a girl obviously in distress and dehydrated. On inspection of the abdomen a roundish lump 1″ × 1″, just below the right costal margin, moving with respiration, was seen. On palpation of the abdomen there was marked tenderness in the right hypochondrium, and the gallbladder was palpable. The spleen was not palpable. The rest of the examination was essentially negative. There was no jaundice.

The patient had a temperature of 101°·4F, a pulse rate of 120 per minute, respiration 20 per minute and B. P. 100/70 mm. Hg.

Laboratory investigations—Hb.—13·9 g./100 ml. ; W.B.C.—16,200/c.mm. with polymorphs 82 per cent ; P.C.V.—7,200 ; Platelets—normal ; Reticulocytes 1·0 per cent. Both bleeding and

clotting time were within normal limits. There was no evidence of increased fragility of R.B.C.'s or of spherocytosis of haemolytic anaemia. Urine and stool examinations did not reveal any abnormality.

Plain x-ray of the abdomen did not show radio-opaque calculi in the region of the gallbladder.

The patient was put on conservative treatment with penicillin, 5 lacs units, twice daily, and streptomycin, 1 g. daily. The temperature subsided in 4 days and the tenderness in the abdomen disappeared. The lump in the right hypochondrium could now be felt better, and one could now be more sure that it was the gallbladder. Extensive search for any blood dyscrasia or septic focus was of no avail, and an operation was decided upon.

The abdomen was opened by right paramedian incision. The gallbladder was found distended and its wall, which had lost the normal sheen, was thickened. Multiple stones could be palpated. The cystic duct was narrow, and the common bile duct was of normal size with no stones in it. Cholecystectomy was carried out.

On opening the gallbladder multiple faceted (Fig. 1, *vide* Plate), and infected stones were found which were greyish in colour. The gallbladder wall was thickened and a histopathological diagnosis of chronic cholecystitis was obtained. The mucosa of the gallbladder was smooth, and there was no evidence of cholesterosis.

The post-operative course was uneventful. The stitches were removed on the 8th post-operative day and the patient was discharged on the 12th day after operation.

Discussion

Acute cholecystitis in infants and children is usually a complication of severe bacteraemia—the focus of infection may be in the ear, osteomyelitis or anywhere else. Typhoid fever in children sometimes causes gangrenous cholecystitis with perforation and death. The most common cause of cholelithiasis in children is due to excessive excretion of pigments during a haemolytic anaemia. 3 of the 6 cases reported by Gross (1953) were found to have haemolytic anaemia. In fact, the relationship of cholelithiasis to haemolytic anaemia is so frequent that cholelithiasis in childhood should always arouse a suspicion about a blood dyscrasia. The presence of jaundice together with symptoms of cholecystitis, acholic stools and a high icteric index, suggest biliary obstruction with congenital haemolytic anaemia. Intestinal parasites may cause obstruction and severe inflammatory reaction of the gallbladder and biliary tract.

In the case under review the patient had 2 attacks of acute cholecystitis at 6 months' interval. Clinically there was no jaundice and the blood examination did not furnish any evidence of a blood dyscrasia. The spleen was not palpable and clinical examination failed to furnish evidence of any acute focus of infection. The fundus of the gallbladder was palpable and even on naked eye examination of the abdomen it appeared as a roundish swelling in the right hypochondrium.

What then was the cause of the formation of gall stones in this child? The existing evidence indicates that cholecystitis is nearly always due to some chemical agents that are normally present in the body, namely pancreatic fluid and bile salts. Bile salts serve to keep cholesterol in solution and with any significant lowering of the level of bile acids, cholesterol will be precipitated. The passage of bile acids through the mucosa of an inflamed gall bladder, and the altered bile salt : cholesterol ratio may lead to precipitation of cholesterol. (Hypercholesteraemia occurring in pregnancy may also increase the cholesterol : bile salt ratio). Partial or complete obstruction of cystic duct due to anomalies of valves of Heister leading to over-concentration of bile salts or other constituents of bile may exert a damaging effect on the gallbladder mucosa leading to an interference of bile salt : cholesterol ratio and hence to stone formation. The presence of multiple infected stones in the gallbladder in the case under review makes one feel that the patient had first cholecystitis from a some septic focus not detected on examination, leading to an interference of bile salt : cholesterol ratio, as described above, and to stone formation.

What should be the form of treatment in cases of cholecystitis and cholelithiasis in children? In cases with both haemolytic anaemia and cholelithiasis, treatment should first be directed towards correcting the anaemia by splenectomy. This should be followed later on by cholecystectomy and, if necessary, choledochostomy. As the carrying out of this procedure in a single stage has too high a risk, it is not advocated in children. It may be argued that very young patients have a much narrower margin of tolerance to the rigors of surgery than those in the middle age, and hence a conservative approach to the problem of acute cholecystitis be adopted. With advances in anaesthesia, better pre- and post-operative care and a comprehensive understanding of the fluid and electrolyte balance there is hardly a place for procrastination, and surgical treatment with removal of the gallbladder should be undertaken. In difficult cases a staged operative procedure, e.g., a cholecystostomy followed later on by cholecystectomy may be considered.

Summary

A case of acute cholecystitis with cholelithiasis occurring in a 9 year old girl is presented.

The rarity of this disease in children is stressed.

The aetiology and the mode of treatment are briefly discussed.

A cholecystectomy under general anaesthesia was carried out with satisfactory results.

References

Glenn, F. A.—*Surg. Gynaec. & Obst.*, **109** : 5, 1959.

Gross, R. E.—The Surgery of Infancy and Childhood, 1953. W. B. Saunders & Co., Philadelphia, p. 530.

ACUTE INVERSION OF THE UTERUS

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Inversion of the uterus is a rare obstetrical complication. Nevertheless, because of its seriousness, obstetricians must be on the alert for its possible occurrence, and should be well conversant with the most effective method of its treatment. This paper reports some interesting instances of this complication which came under our observation, and its management.

Case Reports

Case 1—Mrs. L. J., a primigravida, aged 19, was admitted to the maternity services of S. N. Hospital, Agra on 28th April, 1957, at 2-15 A.M. She remained normal throughout her antenatal period and a pelvic examination at the 32nd week revealed no abnormality. On admission, she was full term with history of labour pains for the last 12 hours. General examination revealed slight anaemia and the blood pressure 130/80 mm. of Hg. The urine was clear, haemoglobin 9 g./100 ml. On abdominal examination, the presentation was right occipito-anterior with the vertex fixed. On vaginal examination under sterile conditions, the cervix was found nearly fully dilated except for a thin rim present on the anterior aspect. The vertex was below the level of ischial spines and the bag of waters was bulging. Pelvis was normal. Membranes ruptured spontaneously at 2-30 A.M. and an unassisted delivery followed. A healthy male child weighing 6 lb. was born. It cried lustily. There was no caput succedaneum. Placenta was not expelled for 20 minutes. A mild Crede's manoeuvre was tried but it failed. Within a few minutes slight trickle of blood started and to the surprise of the resident staff the whole uterus with the placenta was found lying outside the vagina. We saw the case about 10 minutes later. General condition of the patient was fair. Systolic blood pressure was 100 mm. of Hg. ; pulse 100 per minute, fair in volume and tension ; slight bleeding was present. Patient was given ¼ gr. of morphia hypodermically, dextraven was started intravenously. Under gas and oxygen anaesthesia, the placenta was separated and the uterus was corrected by gradual finger taxis. An injection of 0·25 mg. ergometrine and 2 units pitocin was given intramuscularly. This was followed by another injection of pitocin, when the hand was taken out. On completion of the operation the systolic blood pressure was found to be 80 mm. of Hg, and pulse 124 per minute. 600 ml. of matched blood was transfused and the patient was put on vaso-constrictor drugs and antibiotics prophylactically. She made an uneventful recovery and was discharged on the 15th day of the puerperium.

A follow-up examination after six weeks from the date of discharge revealed a well involuted uterus with a healthy cervix in normal position.

Case 2—Mrs. A. A., aged 22, primigravida, delivered a healthy female child at her home at 4-30 A.M. The delivery was conducted by a midwife. Placenta was not delivered for half an hour, when a pull was applied to the cord by a *dai*. Within a few minutes the whole of the uterus with placenta attached to the fundus was found lying outside the vagina. We saw the case at 5-40 A.M. On examination, the patient was found very restless, with beads of perspiration on her face, the blood pressure was not recordable and pulse was about 155 per minute and very feeble. The patient was bleeding. Intravenous injection of fluids was immediately started and 1/6 gr. of morphia was given hypodermically. Before any further resuscitative treatment could be given, the patient expired.

Case 3—Mrs. P. S., aged 25, was admitted to the maternity services of S. N. Hospital, Agra, on 27th November, 1958, at 5 P.M. She was a secundigravida. She was confined five years back in the same hospital. Previous record showed that labour was prolonged and the patient had developed uterine inertia in the second stage of labour, when a low mid-cavity forceps was applied and a living male child was delivered. Placenta was expelled spontaneously 12 minutes afterwards. She had a normal puerperium and was discharged in a good condition.

In this pregnancy, she had a regular antenatal check-up when no abnormality was detected. On admission, her pulse was 76 per minute and blood pressure 110/76 mm. of Hg. There was no anaemia, and the urine was normal. Abdominal examination revealed left occipito-anterior position with foetal heart rate of 134 per minute. She was having good labour pains for the last four hours. On examination, cervix was nearly six centimetres dilated, vertex above the level of ischial spines and the pelvis was proportionate. Membranes ruptured spontaneously at 5-45 P.M. and a healthy 5½ lb. female child was delivered at 6-30 P.M. The palm of the hand was placed on the fundus. Placenta came out spontaneously seven minutes after, and this was followed by a

sharp haemorrhage. Fundus of the uterus could not be palpated per abdomen. On exploration, the whole of the fundus was found lying in the vagina. This complication was detected in about 3 minutes after the birth of placenta. The patient was bleeding profusely and passed into a state of shock, and her pulse and blood pressure became unrecordable. 1/6 gr. morphia was injected subcutaneously, and intravenous injection of human plasma and plasmosan was started. Vagina was packed tightly and continuous pressure applied with the fist. DOCA was given every 2 hours alternating with vasopressor drugs and intranasal oxygen was started with a catheter. The patient remained conscious, and after about 10 minutes the pulse became perceptible and systolic blood pressure of 60 mm. of Hg was recorded. Diastolic blood pressure was still not recordable. Two pints of blood and one pint of saline were transfused. Gradually the pulse and blood pressure improved and within 65 minutes she had a systolic blood pressure of 96 mm. of Hg, and a pulse of 128 per minute. Attention was drawn to a swelling in the suprapubic region at this stage and on palpation we found it was the fundus of the uterus. Ergometrine 0·25 mg., was injected intravenously. The general condition of the patient improved and became stationary at about 2 A.M. The vaginal pack was removed after 24 hours. The patient was put on broad spectrum antibiotics and ecbolics. She ran a mild temperature for 6 days, and this was controlled. The patient was discharged on the 20th day with an involuting uterus in a good state of health.

Discussion

Inversion of puerperal uterus means turning of the uterus inside out, during the third stage of labour or immediately after. Kellogg (1929) suggested the following classification, which is of great help in planning therapy :

1. Acute inversion—This is an acute catastrophe immediately following labour.
2. Subacute variety—The stage beginning with the establishment of firm cervical contraction.
3. Chronic inversion—This is the stage beginning after the lapse of four weeks following known occurrence.

When the inverted fundus lies in contact with or above the os it is called incomplete, while when it protrudes out of the external os it is designated as complete. When the whole organ appears outside the vulva the condition is designated as prolapse of inverted uterus. The placenta may be born or may remain attached to the inverted organ.

The recorded incidence of puerperal inversion is almost negligible. This is partly due to its rarity, to lack of recognition, and on many occasions to lack of reporting the few cases. Bland and Goldstein (1933) give an idea of its occurrence by the following figures :

Zangemeister 1 in 400,000; Von Braun 1 in 250,000; Madden 1 in 190,800; Cache 1 in 4,600; Aveling 1 in 100,000; Hirst 1 in 140,000; Beckman 0 in 250,000; Winekel 0 in 20,000; Nacke 1 in 10,000; Krassowsky 1 in 200,000; Leningrad Lying-in-Hospital 0 in 250,000; Eastman 1 in 20,000; Cosgrave 1 in 4,333 and Schaefer 1 in 6,433.

These statistics are from institutions where excellent antenatal and maternity care are provided for. The picture for our country shall be different where the majority of deliveries are conducted in patients' houses by unskilled midwives. It is, therefore, conceivable that quite a good number of cases must be going unnoticed and undiagnosed. The records of our hospital reveal an incidence of 1—5,000 taking the last 5 years into consideration. Das (1940) in his review of the subject gave the incidence for India as 1 in 23,127.

No doubt, most cases of inversion of the uterus are attributed to mismanagement of the third stage of labour, which may mean pull on the cord, or a badly or wrongly done Credes' manoeuvre. That, this is only partially true is shown by Das (1940), who noted that amongst 297 collected cases of puerperal inversion only 40 per cent were spontaneous. Harer and Sharkey (1940) reported 24 per cent as spontaneous, and unavoidable, while Bell *et al* (1940) found spontaneous inversion in 29 per cent. In the present series one case out of the three was spontaneous. Unquestionably, overambitious efforts to deliver the placenta contribute to the majority in the aetiology, yet almost of equal importance is the inherent weakness of the uterine musculature as a predisposing factor. Factors like fundal fibroids and chronic metritis do contribute, but the natural thinning and relaxation of uterine musculature at the site of placental attachment is important. Schaefer and Veprovski (1949) outline the causes under the following heads :

1. Predisposing causes—
   (a) Pathological condition of uterus and its contents.
   (b) Functional condition of the uterus.
2. Exciting causes—
   (a) Manual removal of placenta.
   (b) Increase in intra-abdominal pressure.
   (c) Mismanagement of the third stage of labour.

Any of these factors might result in simple indenting of uterus which in itself is productive of a chain of events.

The mechanism of uterine inversion is well described by Jones (1914) as follows : "After any portion of uterus becomes indented to a considerable extent, the rest of the organ seizes this invaginated portion as it would hold a foreign body. In attempting to expel it, it turns itself inside out." Erect posture in labour, short cord, straining of abdominal muscle during labour, coughing and sneezing, fundal implantation of placenta and the pressure of submucous myoma, all play an im-

portant role in the aetiology. Primiparae are more disposed to this complication, since in them the placenta is most commonly inserted at the fundus and also because there is greater vigour of uterine muscle.

Mortality rate used to be in the vicinity of 80 per cent before the advent of transfusions and antibiotics. In 1925, it was reported as 84 per cent, while Das (1940) mentioned it as 13·2 per cent. Bell *et al* (1953) report it to be between 12 and 13 per cent.

In the matter of therapy, the multitude of therapeutic methods suggested, in themselves indicate the inadequacy of each one of them. Manual replacement has been used more widely than any other single method. If the patient is not in severe shock and the complication is detected early, digital reposition is possible and is the method of choice. It is difficult to replace the uterus with placenta attached to it. After replacement of the uterus the hand should be kept in position for some time and ecbolics administered. Manual replacement is strongly recommended by Cosgrove (1939), Barret (1944) and others. To be more specific De Lee (1938), Beck (1937) as well as others are unanimous in recommending immediate replacement of the uterus and the use of deep surgical anaesthesia for this purpose, if necessary. If the patient is in severe shock, she should be resuscitated first and manipulations tried only after the condition had improved. McLennan and McKelvey (1942) advocate conservative treatment with immediate aggressive therapy for shock, followed by correction of inversion by surgical means at a later date. Nugent and MacKinnon (1945) also recommend that immediate manual reposition should not be done because of aggravation of the shock. O'Sullivan (1945) recommends the use of intravaginal hydraulic pressure, while Clarh and Wurzbach (1944) reduce the inverted uterus by over-distension of vagina with tight packing.

The cases presented above are interesting in that they reflect the common mode of origin and the common and the rare mode of termination. It is to be noted that mild Crede's manoeuvre could result in the initiation of inversion resulting in prolapse of the inverted uterus. A pull on the cord might result in inversion in other cases. It is well known that in domiciliary practice a pull on the cord is much more commonly practised than mentioned. How is it then that inversion occurs in some cases but not in others? The probable explanation one can offer is the inherent weakness and lack of tone in the uterine musculature. That in about 1/3 of the cases inversion can occur without being detected, proves the importance of the factors pertaining to the strength and tone of uterine musculature itself.

Out of the three cases reported, one was lost. Not much can be commented as the case died before any proper medical aid could be arranged for. However, it does tell one that if the case was not seen by a doctor, she would have died undiagnosed. It confirms further the conviction that in our country where home deliveries are more frequent than institutional ones, a fair number of cases may be having this complication with consequent loss of life.

The method of treatment, as detailed above, does vary. The two methods tried in our cases were manual reposition, and vaginal packing. Manual reposition was tried when the general condition of the patient permitted it. De Lee (1938) also recommends digital reposition. The question whether the placenta should be separated before attempting reposition is still debatable. If the placenta is not removed, 'bulk' makes manual reposition very difficult. While separation of placenta before reposition increases the chances of infection and bleeding. In Case 1 mentioned above the placenta was separated before attempting reposition, and the antibiotics used successfully provided a prophylactic umbrella against infection. Case 3 provides evidence that there is much in Chahr and Wurzbach's (1944) method of vaginal pack. The ease with which packing could be done, the quickness with which the bleeding could be controlled, and the readiness with which the uterus reduced itself to normal were striking. Continuous pressure should be added to vaginal packing as recommended by Chahr and Wurzbach (1944). There is however no point in drawing a conclusion as to the efficacy of this method from a single case. However, we are inclined to recommend its trial.

Summary

Three interesting cases of acute inversion of uterus have been presented.

The aetiology and treatment are briefly reviewed.

Comments have been made on the methods of treatment.

The importance of continuous pressure after vaginal packing as a method of treatment has been emphasised.

References

Barrett, C. W.—*Illinois M. J.*, **85** : 253, 1944.

Beck, A. C.—Obstetrical Practice, Ed. 2, 1937, Williams, Baltimore.

Bell, J. E., Wilson, G. F. and Wilson, L. A.—*Am. J. Obst. & Gynec.*, **66** : 767, 1953.

Bland, B. B. and Goldstein, L.—Gynecology and Obstetrics by C. H. Davis, 1933, Vol. I, Chap. 19, Prior, Hagerstown, Md., p. 26.

Clarh, J. and Wurzbach, F. A.—*Am. J. Obst. & Gynec.*, **48** : 729, 1944.

Cosgrove, S. A.—*Ibid*, **38** : 912, 1939.

Das, P.—*J. Obst. & Gynaec. Brit. Emp.*, **47** : 525, 1940.

De Lee, J. B.—The Principles and Practice of Obstetrics, Seventh Edition, 1938, Saunders, Philadelphia.

Harer, W. B. and Sharkey, J. A.,—*J.A.M.A.*, **114** : 2289, 1940.

Jones, W. C.—*Am. J. Obst. & Gynec.*, **70** : 329, 1914.

Kellogg, F. S.—*Ibid*, **18** : 815, 1929.

McLennan, C. E. and McKelvey, J. L.—*J.A.M.A.*, **120** : 679, 1942.

Nugent, T. E. and MacKinnon, M. H.—*Canad. M. A. J.*, **52** : 381, 1945.

O'Sullivan, J. V.—*Brit. M. J.*, **2** : 282, 1945.

Schaefer, G. and Veprovsky, E. C.—*M. Clin. North America*, **29** : 599, 1949.

JOURNAL OF THE
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NEOPLASMS OF THE BREAST

Neoplasms of the breast form a sizeable percentage of operative material. The redundant flesh sent to the pathologist after each mastectomy has offered material for deep thinking and elaborate study. Tumours of the breast continue to baffle the surgeon and the pathologist for their unpredictable biological behaviour and for the many gaps in our knowledge of the factors that either control or influence tumour genesis and growth. The recent histogenetic and the aetiopathogenetic concepts of neoplasms of the breast, though unable to clarify many doubts, have offered valuable material both for recent therapeutic adventures and experimental studies. The most satisfying feature of this is the bringing in closer the surgeon, endocrinologist, biochemist, radiologist and the pathologist to work in collaboration and pool each other's knowledge to evolve a better therapeutic or preventive measure, instead of competing with one another.

Cancer of the breast continues to be the leading cause of death due to malignant disease in the female in the United States of America, United Kingdom and other economically advanced countries. One in 20 women falls a victim to this disease in the United States of America. The real cause of the disease is not known, although much data have accumulated from clinical, pathological and experimental studies. The constant association of some factors with cancer of the breast has led many workers to incriminate these factors as exercising causal influence in its genesis. Since the ultimate aim of any anti-cancer campaign is to prevent and not to devise refinements in curative measures, a knowledge of the known factors that are found in association with cancer of the breast is very useful. The geographic variation in the incidence of malignant disease of the breast, the comparatively low incidence in the orient and the alarmingly high incidence among the American and British women have led many to suggest that breast feeding habits and oestrogen imbalance may produce adverse effect on its incidence. This is further supported by the observation that breast cancer occurs more often in the unmarried and nulliparous women.

Carcinoma of the breast is of frequent occurrence in Indian women. Many of the patients suffering from tumours of the breast do not seek medical aid in our country and a minority of them that visit the hospitals does not have biopsy confirmation regarding the nature of the growth. As such, neoplasms of the breast registered in the surgical clinics or pathological laboratories do not reflect the true incidence of breast tumours. Multiparity and suckling of the breast do not seem to ensure immunity against breast cancer and recent reports from this country appear to substantiate this observation. Some workers[1] have commented that neoplasms of the breast occur at an earlier age-group in India but in view of the shorter period of life expectancy it may not be realistic to conclude that the peak incidence of these neoplasms is observed at a younger age-group. Nearly 70 per cent of the lumps in the breast appear to be malignant in this country and this is because of the fact that many of the patients seek medical aid in late stages of the disease.

The cyclical changes of proliferation and regression of the breast parenchyma under the influence of the gonadal hormones condemn the breast as a pre-cancerous organ. One often ponders over the observation that cows do not develop mammary cancer, that dogs suffer from benign tumours of the breast and that cats suffer from cancer of the breast. Clues for the variable incidence of the types of neoplasms of the breast in different animals may offer the missing links in the aetiology of breast cancer in the human. The association of fibroid uterus and granulosacell tumours of the ovary with cancer of the breast supports the view that excess of oestrogen plays a causal role. This is further supported by the fact that in surgical or radiation castrates of the ovary neoplasms of the breast do not occur. Ovariectomy does regress the secondary deposits. Adrenal cortical tumours in bitches are associated with neoplasms of the breast and *vice versa*. Adrenalectomy is a well recognised surgical measure employed to abolish the extra-ovarian source of oestrogens and thereby arrest the spread of breast cancer. Reports now emphasise the usefulness of hypophysectomy in breast cancer with disseminated metastases. The finding of carcinoma of the breast associated with a monomorphic pituitary tumour in mice has opened a new vista of experimental field primarily to isolate mammotrophic hormone of the pituitary and to explore the possibility of blocking the action of the hormone as a prevention against breast cancer. Detailed postmortem studies in different stages of cancer of the breast with special reference to the changes that may occur in the endocrine glands in

[1] REDDY, D. G. AND REDDY, C. R. R. M.—*Indian J. M. Sc.*, **12** : 228, 1958.

the human may throw further light on this fascinating aspect of cancer breast.

Time spent on histological classification of the types of breast cancer is usually not rewarded, as very often one is struck by the finding of all known histological patterns in different fields of the same section. Stewart quoted by Haagensen (1956) believes in recognising infiltrating and non-infiltrating types of breast cancer from the prognostic point of view. He further points out that metastasis in scirrhous cancer is earlier and that the five-year survival rate is less comparable to the medullary types of cancer with lymphocytic infiltration. The size of the carcinomatous nodule at the time of operation greatly determines the prognosis but almost all cases that are subjected to surgery are in advanced stages of the disease. More interesting is the observation of malignant transformation of fibro-adenomata of the breast. Reddy[2] and Reddy *et al*[3] have drawn attention to the recurrence of an excised fibro-adenoma or the sudden increase in size of a lump in the breast with softening, with apparently normal skin over the growth and the noninvolvement of the regional lymph nodes—the sections of these growths showing sarcomatous change in fibro-adenomata. They have also pointed out the presence of either tumour giant-cells or lipophagic giant-cells in these tumours and commented on the prognostic significance of the same. Recent reports[4] favour the opinion that the higher incidence of malignancy is noticed in adenosis breast, and the surgeon needs to keep track of these patients. Only an occasional report[5] of Paget's disease of the breast has been recorded from this country.

Koshal *et al*[6] under the title of 'uncommon breast lesions' reminds the practitioners of the need for recognition of plasma-cell mastitis, and tuberculous and actinomycotic granulomas of the breast. Among the benign neoplasms of the breast one may apt to mistake a parasitic cyst and Reddy and Rao[7] recorded two interesting cases of ecchinococcal cysts of the breast. All these emphasise the importance of pre-operative biopsy, and no treatment of any kind should be undertaken without knowing the true nature of the lump in the breast. The exact place of Papanicolaou smear technique in the recognition of malignancy from the discharge of nipple is yet to be determined.

Reddy *et al*[8] have commended on the significance of sarcoma-like lesions observed in the regional lymph nodes of carcinoma of the breast from their material. Such lesions while possessing no specificity are viewed to signify better prognosis in that the regional lymph node channels get blocked by fibrosis resulting from reactive hyperplasia. This again stresses the importance of detailed histological study of the lymph nodes in excised breast tumours.

Until the exact aetio-pathogenetic mechanisms of breast cancer are known it is wise to embark on an anti-breast tumour campaign. This campaign must include information understandable by the lay public, particularly of the early signs and symptoms of breast neoplasms and the dangers of the malady. Education of the public on this important subject may have to be done through distribution of pamphlets, radio talks, films, etc. During the reproductive period women should be taught the art of 'self examination of the breast' in order to detect very small lumps in the breast. This is in vogue in the U.S.A. and is the only surest method of detecting cancer in its infancy, when appropriate surgical measures can assure a longer period of survival of the patient.

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[2] REDDY, D. B.—*Indian J. Surg.*, **17** : 102, 1955.

[3] REDDY, D. J., GUPTA, K. G. K., RAO, T. S. P. AND RAO, V. K.—*J. Indian M. Profession*, **44** : 1694, 1957.

[4] HAAGENSEN, C. D.—Diseases Of The Breast, 1956, Saunders, Philadelphia.

[5] AGARWAL, S., SHREEVASTAVA, J. B. AND SHARMA, K. D. —*Indian J. Surg.*, **23** : 35, 1960.

[6] KOSHAL, K. D., SAXENA, B. P. AND MONGA, J. N.—*Indian J. Surg.*, **19** : 194, 1957.

[7] REDDY, D. J. AND RAO, V. K.—*Indian J. Surg.*, **21** : 3, 1959.

[8] REDDY, D. J., SAROJINI, P. S. AND SIVARAMAKRISHNA, K.—*J. Indian M. A.*, **32** : 246, 1959.

ADDITIONAL OFFICE ACCOMMODATION FOR THE JOURNAL

Additional office accommodation for the Journal of the I.M.A. has been secured at 53, Creek Row, Calcutta 14 where the major part of the office is being shifted by March 1, 1961. The present address (23 Samavaya Mansions, Calcutta 13—Phone 24-5017) will however continue to be operative until otherwise notified. The shifting is likely to disrupt the schedule and cause some delay in the publication of March 16 and April 1, 1961 issues of the Journal

GENERAL PRACTICE DIGEST

HAEMOLYTIC DISEASE OF THE NEWBORN

It has been estimated that about one marriage in eight is between a Rh-negative woman and a Rh-positive man. But about one pregnancy in 200 results in a baby with haemolytic disease. The basic facts about the disease are as follows. If a Rh-negative woman carries a Rh-positive baby, she may produce antibodies which can destroy the baby's Rh-positive red cells. (Exactly the same anti-Rh antibody can be produced if the mother has been transfused with Rh-positive blood.) This antibody can cross the placenta, and during the second half of pregnancy it may get into the baby's blood stream and produce haemolysis. The destruction of red cells causes anaemia, and the accumulation of bile pigments produces jaundice. In mild cases there may be no clinical signs, but severe cases may cause stillbirth long before term. About 60 per cent of affected live-born babies are seriously affected and demand proper treatment.

The proper management of such cases should begin in the antenatal period and the patients' blood should be examined as a routine. The treatment of an affected baby is often an extremely urgent matter. A few hours' delay in starting an exchange transfusion may result in the death of the baby or in the tragedy of a child surviving with a grossly damaged brain. All affected babies should, therefore, be born in a hospital where expert treatment can be given immediately.

The best treatment is an 'exchange transfusion' whereby the baby's Rh-positive red cells are replaced by Rh-negative cells. By the end of the transfusion, nearly all the red cells in the baby's circulation will be Rh-negative, which cannot be destroyed by any remaining antibody. When the baby starts to produce his own Rh-positive red cells, there should not be enough antibody left in his blood stream to cause any further destruction of red cells. The transfusion also washes out some of the excess of bilirubin, for which sometimes a second or even a third transfusion has to be given to prevent the bilirubin rising to a dangerous level.

When a mother has once produced Rh-antibodies, each of her succeeding Rh-positive children will stimulate her to produce more such antibodies, and each succeeding child is likely to be more severely affected than the previous one. The first child is rarely affected, but sometimes it may be so even when there is no definite history of blood transfusion.

Management During Pregnancy

1. Early diagnosis is important for this purpose. Every woman should have her blood group determined at the first antenatal visit during her first pregnancy.

2. Every Rh-negative woman, even in her first pregnancy, should have her blood tested for the presence of antibodies. This is best done at the first antenatal visit and again not later than the 34th or 35th week. When a severely affected baby is expected, more frequent tests from the 30th week onwards may be necessary.

3. Every mother, with antibodies present during pregnancy, should be delivered in a hospital with adequate facilities for exchange transfusions.

4. When a mother is found to be Rh-negative, the husband's blood group should always be determined. A sample should always be examined during the first pregnancy. If the husband is Rh-negative, all the children will be Rh-negative and no incompatibility will occur. But if he is Rh-positive, he may be homozygous or heterozygous. All the children of a homozygous Rh-positive parent will be Rh-positive, but when the father is heterozygous there is an equal chance of each child being either Rh-positive or Rh-negative.

Detection of Cases and Prediction of Severity

In almost every case, the presence of antibodies during pregnancy gives evidence that the baby will be affected. As the antibodies are almost always present by 35 weeks, very few cases will be missed if the tests are done routinely at this time. But to foretell the severity of the case is a difficult problem. The history of previous pregnancies and the titre of antibodies in the mother's blood are important factors.

The indirect antiglobulin test (indirect Coomb's test) may be of value in foretelling the possibility of stillbirth. If a stillbirth is not anticipated the pregnancy should be allowed to go to term. But if a stillbirth appears likely early induction or caesarean section gives the best chance of saving the baby. If the indirect Coomb's test is 1 :40 or higher at 36 weeks in the first affected pregnancy, or 1 :10 or 1 :20 in subsequent pregnancies, many authors recommend an induction.

The history of previous pregnancies is important because each affected child will be more severely affected than the previous ones. Therefore, if there has been a previous stillbirth or severely affected liveborn child, early induction is advisable. Induction at 35-36 weeks should save quite a number of stillbirths and at this stage of pregnancy prematurity should not increase the risk for the baby. When there has, however, been more than one stillbirth already, the question of caesarean section as early as 32 weeks may have to be seriously considered.

Management of the Baby at Birth

At birth the cord should be clamped immediately and some cord blood taken with a syringe from the umbilical vein. Clotted and unclotted samples should be sent to the laboratory for the following investigations :

1. Coomb's test (direct antiglobulin test)—for detecting the presence of maternal antibiotics in the baby's blood. It should be positive in all affected babies.

2. Haemoglobin estimation—to determine the degree of anaemia. If it is below 15·5 g., an exchange transfusion should be done. If it is above 15·5 g., an exchange transfusion is still advisable if the child is premature or the previous child was badly affected. A very strongly positive Coomb's test also demands exchange transfusion.

3. Serum bilirubin estimation—to determine the degree of jaundice. If the bilirubin level is more than 2·6 mg., an exchange transfusion should be considered even if the haemoglobin is over 15·5 g.

4. Rhesus grouping—a Rh-negative baby excludes the possibility of Rh-incompatibility. It may also help in assessing the outcome of future pregnancies.

5. Clinical examination of the baby immediately after birth is important.

If clinical signs of haemolytic disease is obvious, treatment should be started immediately, without waiting for results of laboratory tests. A severely affected child should show signs of palor, rapidly developing jaundice, oedema and signs of heart failure, such as enlargement of the liver, crepitations in the lungs, etc. In very severe cases, the pallor and oedema will amount to hydrops foetalis—these cases rarely survive. Jaundice developing within the first 24 hours of birth should be considered as being due to haemolytic disease until proved otherwise. Any child becoming jaundiced on the first day should be admitted to a hospital for investigation.

Exchange Transfusion

Exchange transfusion is done by passing a plastic catheter into the umbilical vein and alternately withdrawing and injecting blood in units of 10 or 20 ml. Group-O Rh-negative blood should be used. It should be as freshly drawn from the donor as possible. The cells are packed before use, by a preliminary drawing off the supernatant plasma from the blood. Usually 60 ml. per pound of body weight is exchanged. In badly affected babies the venous pressure is often raised. In these cases up to 50 ml. of blood should be withdrawn initially before starting the exchange.

The babies should be closely watched for signs of circulatory collapse during the transfusion.

Care After Birth

During the first few days after birth, the baby should be carefully watched. Jaundice usually increases for about 4 days in full term babies and for about a week in premature ones. If the serum bilirubin level rises above 20 mg. per cent, the child may get *Kernicterus*. In such cases, a second exchange transfusion or even a third, should be done, *via* the umbilical vein.

During the first two weeks signs of hypertonia, neck stiffness, a cerebral cry and convulsions may appear. If they do not appear during the first two weeks, it is unlikely that basal ganglia have been damaged. Mild signs of cerebral irritation appearing at this time may later become normal.

Some degree of anaemia (about 60 per cent haemoglobin) may appear at about 6 weeks of age. After this the haemoglobin level slowly rises. Extra iron is not indicated. A small simple transfusion may be necessary in severe fall in haemoglobin.

Haemolytic Disease Due to Other Causes

The A.B.O. blood groups may cause an incompatibility. The mother usually belongs to group O and the baby to group A or B. Haemolysins detected in the mother's blood in rare cases call for no treatment.

An accumulation of bile pigments from excessive haemolysis and immature liver function, may produce jaundice in premature babies. Exchange transfusion may be necessary to keep the serum bilirubin level below 20 mg. per cent.

—From an article by B. W. Powell—*Brit. J. Clin. Med.*, **14** : 885, 1960.

CURRENT MEDICAL LITERATURE

Cardiac Enlargement in Chronic Severe Anaemia

Sanghvi, L. M., Misra, S. N. and Banerjee, K. (*Circulation*, **22** : 412, 1960) from the Department of Cardiology, Sawai Man Singh Hospital and Medical College, Jaipur, write :

One hundred and fifty patients with chronic severe anaemia were studied to determine the nature of cardiac enlargement and its relation to various factors.

Enlargement was present in 120 patients. It showed no consistent relation to the haemoglobin level on admission. A significant increase in the cardiac size and incidence of failure was observed with increased severity of anaemia, and in female as compared to male patients. The incidence of enlargement showed no relation to the age and sex of the patient and the duration or the aetiologic factor of anaemia.

With correction of the anaemia, enlargement disappeared rapidly in 92 patients, indicating that it was due to dilatation alone. Some enlargement persisted in 28 patients, and it is believed to be associated with cardiac hypertrophy.

Pericardial effusion due to heart failure in 2 patients contributed to a small extent to the enlargement of the cardiac shadow.

Hormones, Cholesterol, and Coronary Atherosclerosis

Kurland, G. S. and Freedberg, A. S. (*Circulation*, **22** : 424, 1960) from the Department of Medicine of the Harvard Medical School, and the Medical Research Department and the Medical Service, Yamins Research Laboratory, Beth Israel Hospital, Boston, Mass., write :

Various hormones have been shown to play an important role in lipid metabolism. Clinical and experimental observations implicate the thyroid, adrenal, gonadal, and pituitary glands in atherogenesis. The evidence is strongest that oestrogens play a role in human atherosclerosis. The influence of hypothyroidism requires further study and clarification. Hormones and lipids are obviously not the only factors important in atherogenesis; hypertension, local tissue factors, and altered intravascular coagulation in all probability significantly influence the natural history of the disease.

Lipaemia and Tissue Oxygen Tension

Joyner, C. R., Jr., Horwitz, O. and Williams, P. G. (*Circulation*, **22** : 901, 1960) from the Edward B. Robinette Foundation, Medical Clinics, Hospital of the University of Pennsylvania, Philadelphia, Pa, write :

The effect of varying levels of lipaemia upon tissue oxygen tension has been investigated in human subjects with normal and decreased peripheral blood flow. Oxygen tension of the skin was determined during rapid clearing of lipaemia to avoid the difficulties inherent in prolonged study over the several hours of increasing lipaemia following a fat meal. Regardless of whether peripheral blood flow was normal or decreased, a mean increase of 21·7 per cent in skin oxygen tension occurred during

heparin-induced clearing of plasma turbidity. In addition, skin oxygen tension increased during the spontaneous decline of lipaemia in 1 subject. Oxygen tension was not increased after a saline placebo injection during lipaemia or following heparin injections in subjects with "clear" fasting serum.

The observed increase could not be attributed to changes in blood flow. Skin temperature remained stable during the experiments and the subject's response could not be correlated with skin blood flow as measured by the vasodilatation test. The increase in tissue oxygen tension that occurs during clearing of plasma seems most probably to be due to increased diffusion of oxygen to or from the erythrocytes.

Blood Volume Changes in Essential Hypertension

ROCHLIN, D. B., SHOHL, T. AND BLAKEMORE, W. S. (*Surg. Gynec. & Obst.*, **111** : 569, 1960) from the Harrison Department of Surgical Research, and the Edward B. Robinette Foundation of the Hospital antd Schools of Medicine of the University of Pennsylvania, Philadelphia, write :

A statistically significant difference has been demonstrated between the blood volume of normotensive and hypotensive patients—70·0±3·88 millilitres per kilogram for females; 76·1±4·17 millilitres per kilogram for males; 61·0±5·28 millilitres per kilogram for females; 67·5±5·92 millilitres per kilogram for males, respectively.

The hypotension during the immediate postoperative period following total adrenalectomy and Adson modified sympathectomy may be restored to acceptable levels of blood pressure (130 millimetres mercury systolic) by the administration of large quantities of blood that can be measured and estimated to be lost at the time of the operative procedure, and is partly due to retroperitoneal haemorrhage.

The blood volumes of the patients subjected to bilateral total adrenalectomy and Adson sympathectomy were observed for a period of 2 months to 3 years after operation. The volumes were found to vary only within the limits of laboratory error in all but 2 patients. The blood volume changes of the remainder were found to be within 5 per cent of the original blood volume determination in terms of millilitres per kilogram of body weight. No correlation could be found between blood volumes and clinical response to the operation in terms of restoration to the normal blood pressure.

Leukaemia Following Radioiodine Treatment of Thyrotoxicosis

POCHIN, E. R. (*Brit. M. J.*, **2** : 1545, 1960) from the Medical Research Council Department of Clinical Research, University College Hospital Medical School, London, writes :

Leukaemia is known to have developed in 18 patients who had previously been treated with radioiodine for thyrotoxicosis, three cases having occurred in the United Kingdom, ten in the United States, four in Canada, and one in Austria.

About 60,000 thyrotoxic patients have been treated with radioiodine in these four countries alone, with an estimated total of over 220,000 patient-years since treatment until mid-1960.

Application of natural leukaemia rates appropriate to the sex, age, and nation of these patients suggests that approximately 21 (or from 14 to 28) cases of leukaemia would be expected to have occurred fortuitously among them whether radioiodine had been given or not. The numbers of patients treated in those countries in which cases of leukaemia have not been observed would raise this total considerably.

The intervals between radioiodine treatment and diagnosis of leukaemia are consistent with a chance distribution.

Of the 17 cases in which the type of leukaemia is known, 13 were diagnosed as acute, a proportion somewhat, but not strikingly, higher than that to be expected on the basis of data for England and Wales on the frequency of acute leukaemia in a normal population of corresponding age and sex.

These estimates are held to indicate that the present known record of cases in which leukaemia has followed radioiodine treatment of thyrotoxicosis gives no indication that this treatment is inducing leukaemia. At the same time they clearly do not exclude this possibility, since the total number of cases of leukaemia might greatly exceed the number at present known to have occurred.

Phenylbutazone and Leukaemia

BEAN, R. H. D. (*Brit. M. J.*, **2** : 1552, 1960) from Repatriation General Hospital, Heidelberg, Victoria, Australia, reports six cases of leukaemia occurring in elderly males.

In all of these patients there was a history of the recent administration of phenylbutazone.

In one of the cases there appears to have been a strong sequential relationship between the drug and the disease, starting from an early typical toxic reaction to the drug and terminating 18 months later in death from myeloid leukaemia.

Leukaemia Following Exposure to Diagnostic Radiation in Utero

BROWN, W. M. C., DOLL, R. AND HILL, A. B. (*Brit. M. J.*, **2** : 1539, 1960) from the Medical Research Council's Statistical Research Unit, London School of Hygiene and Tropical Medicine, give in the following lines the summary of their observations :

Evidence of the leukaemogenic effect on the foetus of exposure to ionising radiations in utero has been sought by comparing the leukaemia mortality in a group of children whose mothers were known to have been irradiated during the relevant pregnancy with that expected from the corresponding sex-and-age specific national mortality rates. Pregnant women who received diagnostic irradiation directed towards their abdomen or pelvis between 1945 and 1956 were identified in the records of the radiological departments of eight hospitals in London and Edinburgh. Information about the date of birth and sex of the child was obtained from the corresponding maternity records. If the child left hospital alive, his full name and the first names of his father

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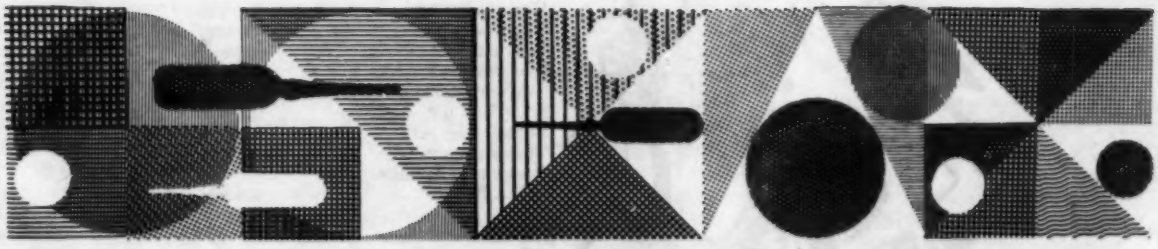

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were obtained from the local register or, in a few instances, from the Central Register of Births. The children who had died of leukaemia were discovered by comparing the children's names with the list of names of all the children who had died of leukaemia in Britain between 1945 and 1958.

Altogether information was obtained about 39,166 live-born children whose mothers were known to have been subjected to abdominal or pelvic irradiation during their pregnancy. Among their children, nine were discovered to have died of leukaemia before the end of 1958. The expected number was estimated to be 10·5. There was no evidence of any disproportionate occurrence of leukaemia among the children who had been most heavily irradiated nor among the children who had been irradiated early in intrauterine life.

Published data on the leukaemogenic effect of irradiation in utero are conflicting. It is concluded that an increase of leukaemia among children due to radiographic examination of their mother's abdomen during the relevant pregnancy is not established.

Leukaemia in Childhood After Antenatal Exposure to X-Rays

LEWIS, T. L. T. (*Brit. M. J.*, **2**: 1551, 1960) from Queen Charlotte's Hospital, London, writes that although the figures obtained so far are not large enough to show a tendency for irradiation of the foetus to cause one case of leukaemia in 40,000 births, they do show that the tendency is not very much greater. The incidence of 8 leukaemic deaths per 16,948 live births, 1 in 2,118, is slightly higher for Queen Charlotte's Hospital than for the country as a whole; but this is due to the much higher incidence of leukaemic deaths in the non-irradiated (control) group, 1 in 4,291, and cannot therefore have been caused by irradiation.

Role of Liver in Hydrocortisone Metabolism

STEENBURG, R. W., SMITH, L. L., SHOEMAKER, W. C. AND MOORE, F. D. (*Surg. Gynec. & Obst.*, **111**: 697, 1960) from the Department of Surgery, Harvard Medical School, Peter Bent Brigham Hospital, Boston, write:

Evidence for the occurrence of a delay in the rate of disposal of hydrocortisone from the circulation after trauma has been reviewed. The cause of this delay remains unknown. Many workers have ascribed it to an impairment in hepatic function following trauma.

Considerable evidence has been reviewed which casts doubt on the rule of change in hepatic function alone in the initiation of this metabolic change.

Adrenalectomised dogs with chronic inlaying arterial, portal venous, and hepatic venous sampling cannulas have been studied during constant peripheral venous hydrocortisone infusion before and after an operation. After 4 hours, constant infusion resulted in stable plasma concentrations of free 17-hydroxycorticosteroids. With operation these concentrations in arterial, portal, and hepatic venous blood increased consistently. The hepatic concentration gradient (the free steroid concentration difference between hepatic artery and portal vein and the hepatic vein) remained the same or increased slightly after operation. This result is incompatible with the occurrence of a decrease in the hepatocellular capacity for steroid metabolism following operation.

An additional 2 adrenalectomised dogs were studied. After 8 hours the constant hydrocortisone infusion site was changed from a peripheral vein to the previously catheterised portal vein. This change resulted in an increase in the rate of steroid metabolism in one dog. In the other, no change was apparent. This inconsistency is explained on the basis of lesser concentrations of 17-hydroxycorticosteroids in the latter instance. At this level the accuracy of the method was insufficient to allow for identification of a change in the metabolic rate.

These data are thought to be consistent with the following hypothesis:

The liver cell itself has a much greater capacity for steroid metabolism than is ordinarily required by steroid concentrations which are experienced in biologic situation. The rate of steroid metabolism is limited by the availability of hormone to the sites of metabolism. Availability, in turn is dependent upon the status of protein binding in tissue as well as in plasma. This determines the distribution of hydrocortisone across vascular and cellular membranes. It is proposed that change in this protein-steroid bond initiates the change in steroid metabolism experienced after trauma.

Hypertension Treated by Guanethidine

LEISHMAN, A. W. D. (*German M. Monthly*, **5**: 361, 1960) from the Royal Infirmary, Sheffield, England, in reporting on the results of a clinical trial of guanethidine in which 43 hypertensive patients have been treated with this drug by mouth for 4-24 weeks, observes: Six of these patients received small doses of hydrochlorothiazide daily in addition. Two patients have shown resistance to the drug's action, but in 33 the blood pressure is now considered to be adequately controlled. The hypotensive effect of the drug is of long duration and predominantly but not exclusively postural.

Symptoms of severe hypotension as well as side-effects were common early in the trial when the dosage employed was excessive, but toxic effects have not been encountered. Side-effects ceased to be troublesome when treatment was started with 10 or 20 mg. guanethidine daily; the dose being subsequently increased by not more than 10 mg. at weekly intervals.

Observation of the blood pressure response at 4-hourly intervals after a test dose of 30 mg. guanethidine has proved useful in identifying patients who were hypersensitive to the drug's action.

Guanethidine is an effective hypotensive drug which progressively reduces blood pressure. It is easy to administer and although dose requirements must be studied individually, treatment can be conducted on an outpatient basis. The introduction of this drug marks an appreciable advance in the treatment of hypertension.

Addendum. By October 1960 more than 100 hypertensive patients have been treated with guanethidine for 10 to 56 weeks. In 81 per cent of patients the blood pressure is now adequately controlled, three quarters of these taking a daily dose of between 20 and 60 mg. Four patients have so far proved resistant to the drug, but a daily dose of 175 mg. has not yet been exceeded.

CURRENT TOPIC

THE FIRST ALL ASIAN CONGRESS OF PAEDIATRICS, 1961, NEW DELHI

The First All Asian Congress sponsored by the Indian Paediatrics Society was held in Vigyan Bhaban, New Delhi from January 2 to January 6, 1961. The Congress was inaugurated by the President of the Republic of India in the presence of the Minister of Health, Government of India, the Director General of Health Services and about 500 distinguished delegates and observers from 23 countries, namely, U.A.R., Turkey, Iran, Pakistan, Ceylon, Burma, Thailand, Vietnam, Philippines, Japan, Indonesia, U.S.S.R., U.S.A., Switzerland, Nigeria, Ireland, Canada, New Guinea, Nepal, Singapore, Australia, Poland and India. The scientific and commercial exhibition was opened by Lt. Gen. Srinivasan, Director General of Health Services. The President of India arrived at Vigyan Bhavan at 10 A.M. The Chairman of the Reception Committee welcomed the distinguished guests and delegates and Dr. S. K. Bose, Secretary General of the Congress, read out the messages from the Prime Minister of India, Shri Jawaharlal Nehru, Chairman of the Chinese Paediatric Association and others. Greetings were received from U.S.S.R., North Vietnam and other countries.

Dr. K. C. Chaudhuri, President of the Congress, then delivered his presidential address which was followed by an address by the Hon'ble Minister of Health, Government of India. The President of the Republic, Dr. Rajendra Prasad, then formally declared the Congress open with the following remarks—

"It was not merely self-interest of a narrow type that provided the incentive for mutual discussions and exchange of data about the incidence of diseases which respected none and reckoned no national boundaries. We have happily reached a state in which the insularity of nations has become as outmoded as it is unfeasible.

India being a vast country with a large population our efforts in this direction have yet much to cover and achieve but we hope to go ahead undeterred by our limited resources or the vastness of our population. The one sphere where we have to make up a particularly big leeway is the care of children and the treatment of their diseases. We are conscious of our shortcomings in this connection and have already taken in hand an ambitions plan of child welfare. Paediatrics, naturally, occupies an important place in this programme."

* * * *

Dr. K. C. Chaudhuri, the president of the Congress, in his address said—

This is the first time an international paediatric Congress is being held in India and I beg your pardon for any unintentional lapses and failures.

Paediatrics as a Profession

To attempt to understand one's own profession is undoubtedly full of difficulties and it is not always possible to take a detached view. However, as students of medical sciences we cannot help self-analysis and self-criticism. I would try my best to give an objective narrative of what I saw of paediatric development in India in my life-time.

Thirty-two years ago when I first started my career as a paediatrician, this branch of medicine in India was a sort of Cinderella of the medical family at which the older members laughed and confidently predicted that paediatrics had no future. A senior and wise member of the profession significantly told me then "Infant mortality is high in India and I hope that paediatrics would not have the same fate". Times have changed since then. Paediatrics is marching forward in spite of intercurrent infections and minor ailments characteristic of childhood. After a not very pleasant and difficult struggle, it has perhaps succeeded in establishing itself as a reputable department of medicine and great hopes are now entertained for its future.

Perhaps the most satisfying of all investigation is to study man—growing man—and his life; its meaning and significance. The child does not grow in a vacuum but in a social milieu. There is nothing more fascinating and rewarding than to observe and guide the gradual transformation of a creature, helpless at birth, into a most complex living being in later life. The role of a paediatrician is not only to heal but also to teach and understand. The up-bringing of the child in a broad sense—the manner in which he learns; how involuntary reflexes transform themselves into patterns of social behaviour; how a single cell develops into a complex mechanism with ability to perform the most intricate biological and intellectual functions, are some of the activities with which a paediatrician becomes busy.

The impact of child-rearing on society is indeed a phenomenon of great significance. If a generation of people are unhealthy, indisciplined, selfish, or greedy as are not very infrequently seen today in India and elsewhere, it is due to neglect and wrong education in childhood by the parents and by the paediatricians. Human beings are fundamentally good—vice is a miss and an error. In the inimitable language of Rabindranath Tagore —whose birth centenary we are celebrating this week—the child is described as :

"With thy riches hidden in thy being
thou dwellest in a world bare of all shame
and show and thought-for-self,
In a destitution that never makes thee poor
And the dust that soils not thy purity,
The sweep of thine own dance ever wiping thee white"

Tagore—*Sishu-Bholanath*

With care and tenderness the child should grow into a being physically fit, emotionally balanced and intellectually alert.

Paediatrics in India

The history of modern paediatrics in India is an interesting study. In 1928 the only light on the paediatric horizon was a dim beacon in Bombay. A private trust had just founded an institution specially for the children —B. J. Wadia Children's Hospital. In 1933 the first specialist Journal—the *Indian Journal of Paediatrics*, was born, followed in 1950 by the second—the *Indian Journal*

of Child Health. In 1947 the first professional society, the *Indian Paediatric Society*, was provisionally organised, which achieved its formal recognition at a meeting of all-India paediatricians in December, 1948. In 1950, a second professional association, the *Association of Paediatricians of India*, was formed. In the same year a chair of paediatrics was created in the Medical College at Madras. In rapid succession paediatric departments were attached to various medical colleges throughout the country. The first post-gradnate *Institute of Child Health*, and the first *University Department of Child Health* was founded by the Calcutta University in 1956-57. Many universities also instituted special diplomas and degrees in paediatrics since 1947. The Government of India and State Governments and private charitable trusts expanded child-welfare activities throughout the country.

Eleven all-India paediatric conferences were held in various cities of India since the foundation of professional societies in 1949-50. It is a matter of gratification and honour to the paediatricians that the President of India was pleased to inaugurate the fifth All-India conference in this very city of Delhi in 1954.

Subjects of discussion in these conferences covered the big groups of diseases like nutritional disorders, diarrhoeal diseases, infectious diseases, etc., which afflict the majority of children of this country. The necessity for better university training in paediatrics, the establishment of paediatric departments in medical colleges and post graduate institutions for research, lack of paediatric personnel, planning of services for child-welfare, education of parents in child-care, need for providing nutritious food, etc., were other vital topics discussed.

Whatever is achieved is due to efforts made to demonstrate the need of child care and planning, to which the Government and people have readily responded. Fifty to sixty yars ago the position in the West was no different, but persistent endeavour has produced results. The problem of less privileged countries is very complex, and requires enormous resources in men and material, and it is not possible to achieve even a minimum standard in the short period of a decade or so. We have no reason to be despondent, although we cannot but feel unhappy at slow progress.

International Congress

This is the first time that paediatricians from all over Asia and other parts of the world have gathered on the soil of India; 22 countries are represented in this Congress. During the last three years two regional Congresses of paediatrics were held in Asia. The first in Singapore in 1958 covering South-East Asia, the Far East and Australia, and the second one in Cairo in 1960 comprising the Middle East and East Mediterranean countries. Such regional conferences are valuable and yield fruitful results. This Congress, however, is representative of the whole of Asia—with observers from four continents. It is the first of its kind.

It is a meeting place of minds, a forum for exchange of knowledge and perhaps a source of inspiration to all of us. It provides a centre for ironing out any differences in thinking and for removing the barriers of race, religion and prejudices and for appreciating and understanding one another's difficulties in the matter of scientific study of the child in all its aspects. I hope that a Congress of this type will soon become an established institution. The idea of holding such a continental congress originated and was finalised at the seventh *All India Paediatric Conference* at Indore in February, 1956.

The International Congress of Paediatrics which is being held since 1912, is certainly of great value for dissemination of knowledge and for personal contacts. But from my personal experience of several such congresses, I have found the world meetings too large and too expensive. Also because several scientific sessions take place simultaneously, it is not always possible to attend the sessions of one's choice. It is also difficult for young paediatricians from distant countries to attend because of great expense. Perhaps this pattern of a continental congress with observers will be a valuable adjunct to the world meetings.

The Problem

Now I would like to look ahead and pose some questions which I feel are of vital importance to the profession and to living in general.

The development of paediatrics in any region or in any age is intimately linked with the political, economic, cultural and health situation. Paediatrics has many facets and its arms reach out in many different directions. The relation of individual curative medicine to State medicine, and the relation of preventive medicine to the economic and cultural state of the country are matters of high policy, and an individual can effectively function only if he is aware of the social situation and if favourable conditions are created by the provision of the necessities of life by the State and society. Many of the disappointments in a medical man s life are beyond his control. For example, in a free economy country like ours, doctors sell and patients buy. If the patients have no resources to buy food or medicines, doctors cannot help them; hence their service remains fruitless. Collectively, the doctors of Asia are confronted with the very grim realities of an increasing population, a shrinking *"Lebensraum"* and the threat of famine. In the continent of Asia about 45,000 new individuals are added every day to the total population of 1,200 million. Population pundits and Malthusian prophets predict extinction of the human race within a few decades. It is not necessary to believe in these prophesies to realise that the threat of famine in the world today, particularly in the less developed countries of Asia, is as great as that of war. Doctors find themselves in moral embarrassment, intellectual bewilderment, and in the midst of personality clashes. Perhaps, intellectually, the world is bound together by a web of common ideals and reciprocal knowledge; and technological advances have made available the means of easy transport and quick communication of knowledge—to save life, to eradicate disease, and to create optimum living conditions, which is undoubtedly the ideal of

every qualified medical man. But should doctors, especially in Asia, make special efforts to save the congenitally defective, the handicapped, and the infirm and increase the threat to humanity and existence? Should we militate against natural selection? This is a question which every physician has to face and answer. To become aware of the problem is an essential pre-requisite for effective action.

The second question, which every specialist has to face—is the limitation to which we specialists must subject ourselves. Physicians of today are learning more and more about the part—and less and less about the whole. Spectacular advances of technological medicine have shrouded the knowledge and confused the wit of man by compiling a catalogue of observations on legs, trunks, and tails. The medical literature has become so voluminous that the physician has no time to think or synthesise the observations recorded. Kenneth Walker in his famous book "Diagnosis of Man" wrote—

"The anatomist, the physiologist, the biochemist and the psychologist have all contributed their quota of knowledge, but when we come to add up what we have been given, the sum-total of it still fails to represent man. The man described by all the specialists is still not a man. Man has been too occupied with the outside world that he has had no time to study the world that is within."

Conclusion

The time, therefore, has come for us to look at the situation in its proper perspective and if I am permitted, I can do no better than to quote our Vice-President, Dr. Radhakrishnan—from his book "Eastern Religion and Western Thought":

"Human life as we have it is only the raw material for human life as it might be. There is hitherto undreamt-of-fullness, freedom and happiness within reach of our species, if only we can pull ourselves together and go forward with a high purpose and fine resolve. What we require is not professions and programmes but the power of the spirit in the hearts of man, a power which will help us to discipline our passions of greed and selfishness and organise the world which is at one with us in desire."—There is only one ideal for man—to make himself profoundly human and perfectly human.

My most pleasant and last duty in conclusion is to request most respectfully our revered President, Dr. Rajendra Prasad, to formally declare the Congress open.

* * * *

Scientific sessions were held every day from January 2-6, 1961 and comprised eleven sections, namely, haematology, nutritional disorders, diseases of G.I. system, infectious diseases, cardiology, disorders of the liver, diseases of the nervous system, social paediatrics, paediatric surgery and miscellaneous sections and was arranged and conducted by the convener of the Scientific Programme Committee, Dr. Amala Chaudhuri.

Simultaneous translation into 4 official languages, Hindi, English, Japanese and Russian was arranged.

* * * *

The Congress ended after adopting unanimously several resolutions proposed by eleven different delegations. The resolutions highlighted the need of good paediatric care in developing countries, particularly for improving nutritional standard, necessity of better paediatric training in undergraduate and postgraduate courses, etc. Light side of the congress consisted of an 'at home' by the Union Health Minister, entertainment, dances and banquet.

* * * *

Post-Congress terms comprised amongst others a visit to Calcutta and a "Symposium on Nutrition" at the Institute of Child Health, Calcutta, by Head of American, Japanese and African delegations.

* * * *

In the scientific sessions each day between January 2 and 6, 1961 the following papers were presented:

Dr. J. N. Pohowalla, D. P. Mukerji, P. M. Shah and N. G. Prasan, *India*: Foetal and adult haemoglobin mass in the newborn in relation to maternal anaemia.

N. N. Sen, C. L. Mukherjee, K. C. Das and B. K. Aikat, *India*: Foetal haemoglobin as an index of maturity.

U. S. Sarkar and J. Nag Chaudhuri, *India*: Oxygen combining capacity of whole blood and haemoglobin solutions in different cases of anaemias.

O. P. Ghai and K. P. S. Varma, *India*: Study of abnormal haemoglobins in North India.

S. Swarup, S. K. Ghosh and J. B. Chatterjea, *India*: Studies on thalassaemia with reference to glutathione stability and glucose-6-phosphate dehydrogenase (G-6-P-D) activity of red cells.

M. K. Khandelwal and M. T. Paithankar, *India*: Sickle cell anaemia in children.

P. C. Bajpai, S. S. S. Singhal, Sharad Kumar and N. L. Sharma, *India*: Megaloblastic anaemia in infancy.

S. P. Ghosal, J. Nag Chaudhuri and U. S. Sarkar, *India*: Megaloblastic anaemia in infancy and early childhood.

Wong Hock Boon, *Singapore*: Acute haemoglobinurias in Singapore children and their causation by absent glucose-6-phosphate dihydrogenase.

W. A. F. J. Tumbelaka and Kho Lien Keng, *Indonesia*: Incidence of leukaemia in childhood.

Soetidjah Harmanses, *Indonesia*: Blood vitamin A content in kwashiorkor.

K. Chatterji, J. Nag Chaudhuri and K. C. Chaudhuri, *India*: Effect of supplementation of choline and methionine on choline containing phosphatides of plasma in protein malnutrition of children.

W. R. F. Collis, *Nigeria*: Protein nutrition in Nigeria.

J. Nag Chaudhuri, S. P. Ghosal and K. C. Chaudhuri, *India*: Some biochemical studies on "scleremalike" skins of infants.

L. Emmett Holt, Jr., *U.S.A.*: Some problems involved in maintaining nutrition in states of intestinal intolerance.

M. M. Wagle, Pushpa Chikhalikar, B. D. Patel and N. G. Magar, *India*: Basal serum level and absorption pattern of vitamin A in health and in disease.

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P. S. Venkatachalam, Bhavani Belavady and C. Gopalan, *India*: Studies of vitamin A nutritional status of mothers and infants.

Phan-Dinh-Tuan, *South Vietnam*: Cardiac beriberi in infants.

P. N. Taneja and S. Kurup, *India*: Incidence of subclinical scurvy.

M. V. Phadke and D. B. Shirole, *India*: Evaluation of "enlarged costochondral junctions" as a physical sign.

Sutedjo and Poey Seng Hin, *Indonesia*: Preliminary report on soyamilk trials on young infants.

L. K. Mitra, *India*: Problem of feeding infants from poor homes.

W. A. F. J. Tumbelaka and Te Bek Siang, *Indonesia*: "Singkong" (cassava) intoxication.

K. N. Gour, *India*: A clinical study in infancy and childhood.

Tirumala Rao, *India*: Diarrhoeal disorders in a paediatric unit.

E. H. Mirando, *Ceylon*: Trichuris as a cause of chronic diarrhoeal symptoms in childhood.

Sutedjo, Kwari Satjadibrata, R. A. P. Lisapaly and Achmad H. Markum, *Indonesia*: Some aspects of the treatment of severe dehydration due to diarrhoeal disorders in childhood.

Tadao Takatsu, *Japan*: Fluid therapy of shock syndrome in infancy and childhood.

Goei Giok Hwa and I. S. F. Ranti, *Indonesia*: Some rare cases of intestinal disorders in young infants.

K. P. Dikshit and B. D. Agrawal, *India*: Diagnostic value of Mantoux in Indian children.

S. G. Chopade, *India*: Tuberculous meningitis.

K. J. Vyas, *India*: Summary of clinical trials with intrathecal hydrocortisone in tuberculous meningitis.

Arthur E. De Sa, *India*: The treatment of tuberculous lymphadenitis with adrenal corticosteroids.

Sisir K. Bose, *India*: Disseminated osseous tuberculosis in early childhood.

K. P. Dikshit and B. D. Agrawal, *India*: Diarrhoeal disorders of children with tuberculous aetiology.

R. B. Fondekar, Shantilal C. Sheth and J. K. Thanawala, *India*: Review of infectious diseases in the child population in a metropolis.

Shantilal C. Sheth and J. K. Thanawala, *India*: Diphtheria in children.

J. K. Thanawala and Shantilal C. Sheth, *India*: Smallpox in children.

S. Sood, *India*: Value of synthetic and naturally occurring corticosteroids in typhoid fever.

Shanti Ghosh and Saroj Soni, *India*: A study of tetanus.

Sheila Singh Paul, *India*: The reduction of the mortality rate of tetanus in children.

J. K. Thanawala and Shantilal C. Sheth, *India*: Poliomyelitis in children.

V. B. Athavale, *India*: Muscle recovery in poliomyelitis.

Ranjit Sen, *Nigeria*: Solmontlla and Shigella types isolated from gastro-intestinal infections in children at Ibadan, Nigeria.

Tuchinda Prasong, *Thailand*: A syndrome of acute haemorrhagic fever in Thailand.

Jo Kian Tjay and I. S. F. Ranti, *Indonesia*: The incidence of heart diseases in childhood.

Piloo E. Bharucha and K. K. Datey, *India*: Normal electrocardiographic patterns in school-age children.

Ali Ertugrul, *Turkey*: A study of the origin of innocent murmurs in childhood using intracardiac phonocardiography.

H. Mazumdar and K. I. Vytillingam, *India*: Congenital heart disease.

P. M. Udani, *India*: Myocarditis.

J. B. Mehta and J. C. Sarin, *India*: Infantile cirrhosis of liver.

N. K. Chanda, *India*: Indian childhood cirrhosis aetiology and pathogenesis.

L. S. N. Prosad and Pran Ranjan Prasad, *India*: Some observations on Indian childhood cirrhosis and infective hepatitis.

P. Tirumala Rao, *India*: A study of clinical, biochemical and biopsy studies of infective hepatitis, infantile cirrhosis, and other liver injuries in a group of children.

K. S. Mathur, R. S. Dayal and B. D. Agrawal, *India*: Paper electrophoresis of serum proteins in infantile cirrhosis.

N. C. Dey, *India*: Infantile cirrhosis of the liver.

Yuti Sato, *Japan*: A modified method for histological examination of hepatic cells obtained by needle biopsy.

Felix Arden, *Australia*: Subcapsular haematoma of the liver in newborn infants.

Uma Ganguly, S. K. Bose and J. Nag Chaudhuri, *India*: Biochemical changes in cerebrospinal fluid in convulsive disorders in infants and children.

Iqbal Ahmed and J. K. G. Webb, *India*: Pyogenic meningitis in infancy and childhood in South India.

Tooru Nakao and Morihide Yamada, *Japan*: Outbreak of aseptic meningitis caused by "haemagglutinating virus of Japan".

J. K. G. Webb, S. George, J. Chandy, M. Jadhav and K. Pavri, *India*: Japanese B encephalitis in South India.

A. S. F. Ranti, *Indonesia*: Neuroplegics in encephalopathy.

P. M. Udani, *India*: Intracranial tuberculomas in children.

I. S. F. Ranti, *Indonesa*: A report on cerebral atrophy in children with convulsions.

E. P. Bharucha and P. K. Mullaferoze, *India*: The diagnosis of cerebral palsy.

P. C. Bajpai, *India*: A clinical study of infantile tremor syndrome.

H. M. Khan, *Pakistan*: Niamid mental deficiency.

N. P. Fernando and W. J. Gomes, *Ceylon*: Pattern of growth and development in infancy and early childhood and factors affecting them.

Mohamad Sugiono, *Indonesia*: A health centre survey in Djakarta.

E. M. B. Wylde, *Malaya*: Social paediatric advance in Kuala Lumpur, Malaya.

W. B. Macdonald, *Australia*: Infant Health Services in Western Australia.

Amala Chaudhuri, Mamata Chaudhuri and K. C. Chaudhuri, *India*: Morbidity pattern of children in an urban community.

V. B. Athavale, *India*: Present day illnesses in Indian children.

J. C. Marfatia, *India*: Child guidance: Importance of cultural and social factors in the causation of emotional maladjustment in children.

P. S. Mukherji and K. C. Mookerjee, *India*: Physical and psychological changes in the deposed child.

G. Fanconi, *Switzerland*: Prenatal pathology.

Harbans Lal, N. L. Chitkara and S. S. Manchanda, *India*: Acute respiratory infections in young children.

Munenori Enjoji, *Japan*: Psycho-occupational therapy in childhood asthma.

D. R. Chopra, *Burma*: A new syndrome.

S. P. Ghosal, J. Nag Chaudhuri and K. C. Chaudhuri, *India*: A bone dysplasia of unknown aetiology.

Te Bek Siang and Kwari Satjadibrata, *Indonesia*: Foetal inclusion.

N. S. Tibrewala, *India*: Management of childhood nephrosis with particular reference to the use of corticosteroids.

K. Kanwar, *India*: Adrenogenital syndrome.

Stella G. De Silva, *Ceylon*: Rheumatic fever in children in Ceylon.

S. M. K. Wasti, *Pakistan*: Accidental poisoning among infants and children.

Sharat Desai, L. Marquis and M. L. A. Bhat, *India*: Fungus diseases of skin in children.

Pham-Gia-Can, *South Vietnam*: Trial of treatment of Handschuller-Christian syndrome with 6-mercaptopurine.

A. Libov, *U.S.S.R.*: Prevention of side-effects due to antibiotic treatment.

Shantilal C. Sheth, *India*: Medical education and paediatrics.

R. J. Maneksha, *India*: Burns in children.

B. Mukhopadhyay, *India*: Septic arthritis of the hip.

K. S. Bose, *India*: Bone and joint changes in smallpox.

T. Thomas, R. H. Betts and N. Gopinath, *India*: Cardiovascular surgery in the paediatric age group.

U. C. Chakraborty, *India*: Congenital bladder neck obstruction.

Phan-Dinh-Tuan, *South Vietnam*: The Noma in Vietnam.

P. J. Mcnicholas, Newfoundland, *Canada*: Strabismus in childhood with special reference to its surgical correction.

M. Mukherji, *India*: Hare lip—Operative result of 300 cases.

J. R. Barua, *Burma*: Birthweight, length and circumference of the skull in the largest maternity hospital in Burma.

R. K. Bhagavan, T. R. Doraiswami, M. Narayana Rao, N. Subramanian, M. Swaminathan and V. Subrahmanyan, *India*: Treatment of protein malnutrition in children with processed protein foods and protein isolates.

Kaleria Blumenthal, *U.S.S.R.*: Group of viral aetiology.

H. G. Hiller, *Australia*: Cine-tele-fluorography in paediatrics.

Tang Kwang Hoh, *Singapore*: Scurvy in Singapore.

Maria Kazanizeva, *U.S.S.R.*: Administration of antibiotics in paediatrics.

Nobawy El Mohandiss, *United Arab Republic*: Kwashiorkor (nutrition oedema syndrome) in Egypt.

Nabawy El Mohandiss, *United Arab Republic*: Infantile liver cirrhosis of Egypt.

Mark Olevsky, *U.S.S.R.*: Some principles of feeding in early infancy.

Fe Del Mundo, Anita Leynes and Rebecca Pineda, *Philippines*: Reactions to some 'tranquillisers' as observed among children.

G. D. Smith, *Malaya*: Development of a cerebral palsy centre in Malaya.

Olga Sokolova, *Ponomareva, U.S.S.R.*: Clinical and neurohumeral data of activity of rheumatic fever in children.

Olga Sokolova, *Ponomareva, U.S.S.R.*: Clinics of children brucellosis.

Aleksander Tur, *U.S.S.R.*: Basic principles of infant feeding up to one year of age.

Aleksander Tur, *U.S.S.R.*: Training of paediatrists in U.S.S.R

NOTES AND NEWS

WHO Executive Board Ends Sitting

The 27th Session of the WHO Executive Board concluded its 3-day meeting in New Delhi on February 2, 1961 after approving a number of resolutions recommended for adoption by the 14th World Health Assembly which opened in New Delhi on February 7, 1961. Dr. H. M. Penido, who is Superintendent, Special Service of Public Health, Rio de Janeiro, was in the chair.

The Board heard reports from the Regional Directors on the 1960 meetings of WHO's six Regional Committees.

Dr. C. Mani, Regional Director for South-East Asia, in his report said that although death rates were coming down in most countries of his Region, there were indications that the amount of sickness was on the increase. To a large degree this was due, in his opinion, to defective sanitary conditions and malnutrition. These were two formidable challenges, especially in rural areas, but both problems required very large expenditures and had therefore to take their place as only two among the many major development needs of the country concerned.

A resolution on accommodation for the Regional Office for South East Asia expressed "deep appreciation of the generous assistance" being given by the Government of India to WHO in this connection. The Regional headquarters building now under construction on the Ring Road, New Delhi, is expected to be ready for occupation by early 1962.

It was decided to hold the 28th session of the Board in Geneva in May-June this year.

WHO Now Has 104 Full Members

The Republic of Somalia has now joined the World Health Organisation by depositing with the Secretary-General of the United Nations a formal instrument of acceptance of the WHO Constitution. This brings the number of states who are full members of WHO to 104. There are also two Associate Members: Sierra Leone and the Federation of Rhodesia and Nyasaland.

Somalia is the thirteenth newly-independent African republic to become a full member of WHO during the last six months.

World Health Assembly : Opened by Nehru

The Prime Minister of India, Mr. Nehru inaugurated the 14th World Health Assembly at Vigyan Bhavan, New Delhi on February 7.

This is the first World Health Assembly held in India and attended by delegates from WHO's 103 Member States and two Associate Member States. The Assembly will last about three weeks.

At its opening session the Assembly was presided over by Dr. H. B. Turbott, Director-General of Health of New Zealand, President of the 13th Assembly. His successor will be elected at an early stage of the proceedings.

The application of Mauritania for membership in WHO is on the Assembly's agenda, as well as applications for associate membership on behalf of Ruanda Urundi and Tanganyika.

Mudaliar Elected President of World Health Assembly

Dr. A. Lakshmanaswamy Mudaliar, leader of the Indian delegation to the 14th session of the World Health Assembly at New Delhi was elected its president.

The plenary session of the Assembly approved the recommendation of the Committee on Nominations that Dr. A. L. Mudaliar be elected President for 1961.

The Assembly also elected three vice-presidents:

Dr. Marrinez Marchetti (Argentina); Dr. J. Plothar, Minister of Health (Czechoslovakia); and Dr. D. Samonte (the Philippines).

Dr. W. E. Karunaratne, Director of Health Services, Ceylon, was elected chairman of the Committee on Programme and Budget while Dr. H. Van Zile Hyde (U.S.A.) was elected chairman of the Committee on Administration, Finance and Legal Matters.

U.K.'s Highest 'Flu Deaths since 1957

The highest influenza death toll since 1957 Asian 'flu epidemic has been recorded in the first three weeks of this year, the Ministry of Health announced on January 28, 1961 says Reuter. Since the beginning of the year 754 people have died of influenza throughout England and Wales. At the peak period of Asian 'flu epidemic in October 1957 more than 1,000 people died.

Medical Science Institute

Queen Elizabeth declared open the new buildings of the All India Institute of Medical Sciences at New Delhi on January 27, 1961 by cutting a ribbon with a pair of gold-plated scissors.

The Queen made no speech on the occasion but signed in the visitors book of the Institute. She also planted two saplings on the premises of the Institute to commemorate the occasion. The Queen, who was accompanied by Prince Philip, was welcomed by Rajkumari Amrita Kaur, President of the Institute, and Mr. D. P. Karmarkar, the Union Health Minister. Rajkumari Amrit Kaur described the institute as the symbol of international endeavour. It was the result of munificent donations made by the Governments of New Zealand, United States and India and the Rockefeller Foundation. The Government of India have borne the major part of the total cost of the project estimated at about Rs. 9 crores.

Rajkumari Amrit Kaur said that the All India Institute of Medical Sciences was the only one of its kind in this part of the world. It is a statutory body established by an Act of Parliament. It grants its own degrees and diplomas which are registrable qualifications entitling the holders to privileges attached to equivalent awards from recognised universities.

President's Awards for Medical Men

The president of the Indian Union has conferred the following awards to medical men of India on the Republic Day, 1961, in recognition of their distinguished services :

Bharat Ratna—to Dr. Bidhan Chandra Roy, the chief minister of West Bengal. Dr. Roy is a past president of the Indian Medical Association.

Padma Bhusan—to (1) Dr. Tridib Nath Banerjee of Patna, an eminent physician of Patna and a past president of the Indian Medical Association. (2) Dr. Rustomji Bomonji Billimoria, founder of "Bel-Air" Sanatorium, Poona. (3) Dr. Verrier Elwen, Adviser for Tribal Welfare, NEFA.

Padma Shri—to Dr. (Miss) Hilda Mary Lazarus, Hony. Director of the Institute of Obstetrics and Gynaecology, Waltair.

Juvenile Delinquency in India

The all-India crime statistics for 1959—the latest to be compiled, reveal an alarming increase in juvenile delinquency during the year.

As many as 47,925 juveniles were apprehended during the year for crimes ranging from begging to rape against a little less than 30,000 during the previous year. This means an increase of nearly 60 per cent in juvenile crime.

As the authorities have started collecting statistics of juvenile delinquency only since 1958, it is difficult to say whether the increase represents a steady trend, as in certain other countries such as the U.K., the U.S.A. and Japan, or is only a temporary phase.

Nearly 600 children were apprehended for murder, attempt to commit murder and culpable homicide while three times that number were charged for causing grievous hurt or "administering stupefying drugs."

A curious fact that emerges from the crime report is that among those held for dacoity were two boys below

the age of 12 years. In the same age group three were charged with robbery.

Bombay (now Maharashtra and Gujarat) sent the largest number of children to courts. Their number is stated to be nearly 15,000. The number of juvenile offenders in West Bengal, however, was less than 3,000 while even Delhi with its small area and population sent over 3,300 to courts during the year.

Symposium on Leprosy

Speaking at a symposium organised in connection with World Leprosy Day at the School of Tropical Medicine, Calcutta, on January 28, 1961 Dr. R. N. Chaudhuri, director of the school, said that efforts should be made to inculcate in the public a rational attitude towards the disease.

Leprosy, he said, was a chronic communicable disease, but no one should have an exaggerated fear of it or believe that it is highly communicable. The picture of the disease commonly found in India was on the whole less depressing than that frequently presented in medical text books.

There were about 2 million leprosy patients in the country. Of these, 350,000 were in West Bengal, Calcutta and its suburbs had about 20,000 of them. Usually, the milder "non-lepromatous" type predominated in India. "Open" cases might be made "closed" ones. The disease was curable.

It was becoming generally accepted that the way to leprosy eradication lay through case finding and treatment. General practitioners might have to undertake treatment of the disease on an increasing scale, making use of the services of a leprologist when difficulty arose. The introduction of the sulphone group of drugs had encouraged experiments with mass treatment and selective segregation.

Acknowledging the services rendered by benevolent and missionary workers, Dr. Chaudhuri spoke on the contributions made by the Tropical School in the field of research and training of doctors. The school's leprosy department was started in 1921. This was the first leprosy research centre in the East, possibly in the world. Apart from carrying out research on various aspects of the disease, the school had so far trained about 1,500 doctors for leprosy treatment.

Indian Scientists Discover New Antibiotic for Plants

A new strain of antibiotic, which is both anti-fungus and anti-virus, has been isolated at the Indian Agricultural Research Institute.

Spores of fungi have been observed to form into bulbs in the presence of this new antibiotic which has been named Bulbiformin on account of this distinctive characteristic. Derived from *Bacillus subtilis*, which is obtained from wilted pulse plant soil, requirements for the production of the new antibiotic have been worked out by scientists at the institute.

By subjecting *Bacillus subtilis* to gamma radiation the antibiotic activity of the new strain has been increased four times. The antibiotic can also be derived from sterilised soil supplemented with dextrose and a nitrogenous substance. The addition of molasses and roots of pulse plants greatly enhances the production of Bulbiformin and gives plants protection against certain soil-borne diseases.

The active element of the antibiotic is drawn up by the roots and transferred to the leaves. Treating seeds with *Bacillus subtilis* makes the plants resistant to certain wilting diseases.

The Bombay Obstetric and Gynaecological Society

The 9th intensive Refresher Course in Obstetrics and Gynaecology will be arranged by the Bombay Obstetric and Gynaecological Society in the second week of March 1961, i.e., from 6th March to 11th March 1961.

A nominal fee of Rs. 15/- (Rupees fifteen only) has to be paid in advance for registration of the names for this course. Candidates will have to make their own arrangements for boarding and lodging. Further information may be obtained from the Joint Hony. Secretaries of the society, Purandare Griha, Chowpatty Sea Face, Bombay 7.

The Bombay Hospital Journal Research Pool Fellowships

The following fellowships have been awarded to the doctors mentioned below.

1. Carlo Erba Fellowship to Dr. (Smt.) M. V. Bhansali, B. Y. L. Nair Charitable Hospital, Bombay, for article on Treatment of Acute Diarrhoeas in Adults with Mebiplex.

2. Cipla Fellowship to Dr. J. R. Shah, G. T. Hospital, Bombay, for article on Treatment of Cirrhosis of Liver with Cirozan.

3. Dumex Fellowship to Dr. Bannoo D. Curravala, G. T. Hospital, Bombay, for articles on (1) Therapeutic Study of Maxipen (an Improved Penicillin) in Various Infections including Sensitivity Studies against Infecting Micro-organisms; (2) Blood Level Study after Varying Doses of Maxipen and Its Comparison with Penicillin V and Other Injectable Penicillins.

4. Hoechst Fellowship to M. J. Joshi, Sassoon Hospital, Poona 1, for article on Tolbutamide in the Treatment of Thromboangiitis Obliterans.

5. Suhrid Geigy Fellowship I to Dr. F. P. Bahadurji, J. J. Hospital, Bombay, for article on the Clinical Aspect of Oral Diuretic Hygroton in Oedematous Conditions and Estimation of Urinary and Blood Sodium, Potassium and Chlorides.

6. Suhrid Geigy Fellowship II to Dr. A. M. Shanbhag, L. T. M. G. Hospital, Bombay, for article on Hygroton as a Hypotensive Agent by Itself or in Combination with Other Hypotensive Agents.

7. Unichem Fellowship to Dr. M. S. Narayanan, Government Headquarters Hospital, Tiruchirapalli, for articles on (1) To Evaluate the Side Reactions of Two Preparations of Intravenous Iron; (2) To Study the Haematological Response (by assessment of haemoglobin, R. B. C. count, reticulocyte count and serum iron) in Iron Deficiency Anaemia by Three Varieties of Iron Preparation in Tablet Form.

CORRESPONDENCE

The Editor is not responsible for the views expressed by correspondents

The Medical Council of India

SIR,—The Indian Medical Council Act of 1933 ushered in by the then British Government much against the strong protests and opposition of the entire medical profession and the two all-India medical associations in our country has resulted, after a lapse of 23 years, in the establishment of the Indian Medical Council Act of 1956. But this Act is neither welcome nor desirable in independent India as it does not conform to the conditions of a Medical Act and still clings to the policy of the alien administration in dividing the profession into casteism and compartments. It shows the attitude of some of its members who are obsessed with notions not congenial to the healthy growth and progress of the profession, the same bureaucratic attitude as that of the erstwhile reactionary Government is being adopted. Unless and until this undesirable complex is shed once for all the Council would not be doing its duty to the profession. The Act does not find a parallel anywhere in the civilised globe. The functions of a Medical Council are threefold as stated below:

1. It must maintain a Medical Register of all qualified medical practitioners.
2. It should exercise a disciplinary control over them and preserve the dignity and the ethics of the profession.
3. It should standardise the minimum qualification required for registration so that medical education in various schools and colleges in India may be maintained at a uniform level.

The Medical Council of India has so far subserved none of the above conditions beyond the fact that the Act has included in its purview a large section of statutorily registered medical practitioners in the State Medical Councils who have been left hitherto unrecognised. The anomaly of this Act is the existence of schedules of qualifications under four categories further differentiating the profession which the Act does not envisage. The only function it seems to be exercising is to bring about a rapproachement between the degrees awarded by the Indian universities and the General Medical Council of Great Britain and get its recognition, as well as inspection of medical colleges, their examinations and the curriculum of studies for recognition. This Council as it exists does not fulfil all the attributes of a Medical Council because neither the Government nor the Council has any clear idea of its functions. Unless the Council whole-heartedly passes what the Act stands for, the Medical Council of India may as well cease to function as an all-India body and be termed as a Council for Medical Education in which case there need not be any agitation against its existence by a large body of medical men who are quite satisfied with the functions of the State Medical Councils. I am, etc.,

T'NAGAR, MADRAS — D. V. VENKAPPA

REVIEWS

Year Book of Neurology, Psychiatry and Neurosurgery Series 1959-60: Neurology—edited by Roland P. Mackay, M.D.; Psychiatry—edited by S. Bernard Wortis, M.D.; Neurosurgery—edited by Oscar Sugar, M.D.; The Year Book Publishers, 200, East Illinois Street, Chicago 11; 7½"×5", pp. 640; $9·00.

Knowledge in the subjects of neurology, neurosurgery and psychiatry both in clinical and experimental aspects is increasing very rapidly and a vast number of papers appear every year in current journals. Any one interested in any of the disciplines of neurology finds it difficult to keep his knowledge uptodate. As such, an annual volume like this is of invaluable help to him.

To survey the vast literature and choose the relevant advances keeping the book within a reasonable size, though difficult, has been very well achieved by the editors.

Relevant comments by the authors at the end of many of the articles are highly commended.

The review of the progress of neurology within the last decade has been of a very high order.

Significant advances in psychiatry written in the past one year have been summarised.

114 plates and figures are included in the text.

Everybody practising any of the disciplines of neurology should have it, for keeping himself informed about the latest developments.

R. N. CHATTERJEE

The Sturge-Weber Syndrome—Edited by G. L. Alexander, M.D. (EDIN.), F.R.C.S.E., F.R.C.S. and R. M. Norman, M.D. (BRISTOL), M.R.C.P.; 1960, John Wright & Sons Limited, Bristol; 9½"×7½", pp. viii+95, 54 illustrations; 32s. 6d.

The authors of this monograph are to be congratulated for publishing this admirable book. The Sturge-Weber syndrome has been drawing the attention of the clinical neurologists for more than eighty years now, but even then the clinical conception has been rather vague and indefinite. The authors have given a very clear conception of the syndrome in all its aspects.

First of all, the syndrome is lucidly defined and its cardinal features are mentioned. The cases, though small in number, have been so thoroughly investigated that the authors have been able to present the clinical, radiological, pathological and electroencephalographic findings in detail.

The Sturge-Weber syndrome is taken as mainly a neurological problem, though occasional operations have been done before. But the authors have definitely shown the scope of surgery in alleviating the condition, and have stressed on the need for operating upon these children in early infancy even before the classical calcifications appear. There is certainly scope for further work by neurosurgeons in this rather neglected field of neurosurgery.

R. N. CHATTERJEE

OBITUARIES

Dr. Souren Sengupta

Dr. Souren Sengupta, the Honorary Secretary, Indian Medical Association, Bengal Provincial Branch, died suddenly on Friday the 20th January 1961 at his Calcutta residence at about 11-15 P.M.

The same day till about 10 P.M. he was engaged in work at the Indian Medical Association. He went home and after dinner as he was reading a newspaper, died suddenly.

Born on Sree Panchami Day in 1919, Dr. Sengupta passed the Matriculation Examination from Scottish Church Collegiate School and Intermediate Science from Vidyasagar College. He graduated in medicine from the then Carmichael Medical College (now R. G. Kar Medical College). After graduation, Dr. Sengupta joined the Lake Medical College as a Clinical Pathologist and, later on, the Institute of Child Health in the same capacity.

He had been actively associated with the Indian Medical Association in all spheres of its activity for more than a decade. To the association he was a dynamic force in every progressive work not only for Calcutta and Bengal branches of I.M.A. but even for the Central organisation. He served the association in various capacities, viz., as Hony. Secretary, Calcutta Branch, and as Member of the Working Committee, the Central Council and the Journal Committee, I.M.A. He represented the Indian Medical Association in different statutory bodies and committees including the Telephone Advisory Committee, Calcutta Regional Board of Employees' State Insurance Corporation, West Bengal, Family Planning Board, etc. He was an associate member of the Health Standing Committee of the Calcutta Corporation for some time.

Dr. Sengupta's contributions to the association are too numerous to be mentioned in detail. The Family Planning Programme was sponsored under his guidance by the Indian Medical Association, Bengal Provincial Branch and the programme has recently been accepted by the Government of India. The Rural Health Scheme for West Bengal which is to be implemented by the State Government in the near future was initiated by the Indian Medical Association, Bengal Provincial Branch, under his leadership.

Rarely has one the privilege of sponsoring or organising or associating himself with so many activities of the association. Dr. Sengupta had a deep knowledge of the working of this association and all its branches spread over the State of West Bengal and had an unfailing and quick grasp of the crux of any problem that confronted the association.

His activities were not confined to this association only. He was the founder organiser of the Bengal Provincial Students' Federation. He was the President of the Carmichael Medical College Students' Union and organised the All Bengal Medical Students' Association. He was the founder Secretary of the medical journal *Indian Medical Forum*. He was the Managing Director of M/s. A. K. Distributors Pharmaceuticals (Private) Ltd.

He was one of the founder-conveners of the Indian National Ambulance Corps which was the first national ambulance organisation in this country under the then foreign regime. The volunteers of the All Bengal Medical Students' Association and the I.N.A.C. under his able guidance and leadership rendered yeomen service in the flood-stricken areas of Midnapur, Bankura and Chittagong in 1943-45 and in the disturbed areas of Calcutta, Noakhali, Bihar and Punjab during the communal riots of 1946. The I.N.A.C. Health Clinic sponsored by him, was the first organisation to offer medical aid to the families of the low-income-group people of Calcutta. He was the Secretary of the I.N.A.C. till his death.

DR. SOUREN SENGUPTA

Simple and unassuming, gentle and kind, frank and outspoken, Dr. Sengupta won the affection and esteem of all who came to know him. In his premature death, the Association has lost an illustrious member, a respected leader and a lovable friend.

Dr. Heinz Lord

Dr. Heinz Lord, Secretary General, World Medical Association passed away on February 3, 1961 in Chicago, Illinois.

Dr. Lord, a Peruvian citizen was born in Hamburg, Germany in 1917, studied medicine in Zurich and Berlin and graduated from the University of Hamburg in 1942. While working in a Hamburg hospital he was arrested for activities in a resistance movement and confined in a German concentration camp until the end of the war. He was recognised as a surgical specialist in Germany in 1952 and a specialist in urology in 1953. Dr. Lord emigrated to the United States in 1954 to take additional training at the Bridgeport Hospital, Bridgeport, Connecticut. He practised surgery in Barnesville, Ohio from 1957-1960. On January 1, 1961 he assumed the responsibilities of Secretary General of The World Medical Association.

On the day of his death, Dr. Lord attended the Rural Health Study Conference in Chicago at which he presented a paper entitled. "The Changing Pattern of Medical Care."

Dr. Lord is survived by his wife and two children.

SUPPLEMENT
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XXXVII ALL-INDIA MEDICAL CONFERENCE :: CALCUTTA :: MARCH 12-14, 1961

Dr. Debesh Mukherji, the Organising Secretary, 37th All-India Medical Conference, has issued the following :

Visitors, Delegates, Members and Guests attending the Working Committee, Central Council and the 37th All-India Conference are requested to send the following information to the Organising Secretary immediately :

1. Date of arrival in Calcutta.
2. Time of arrival in Calcutta.
3. Station of arrival : Howrah/Sealdah or Dum Dum Airport.
4. Alone or with family—if with family, number of members : adults and children.
5. Whether stay will be in the Conference Campus or Private Residence.
6. Type of Diet : Vegetarian/Non-Vegetarian.
7. Date and time of departure from Calcutta by train or plane.
8. Whether Return Reservation is to be arranged by the Reception Committee—if so the Ticket number and other necessary details are to be sent.

ACCOMMODATION AND FOOD

(a) As the Conference Campus is about 7 miles from the centre of the city, the Reception Committee requests all to reside in the Campus, where all arrangements have been made for the comfort of the members.

(b) The Conference Pandal, Exhibition Pandal, Food Pandal and majority of the rooms for accommodation of the guests are situated in one compound. A stand-by Campus for accommodation only is also ready within 1/2 mile of the main Campus.

(c) Members with family will be allotted individual rooms and others 2-3 seated rooms. All rooms have attached bath. Beds, mattresses, pillows with cover and bedsheets will be supplied by the Reception Committee. Light bedding with mosquito net and also lock and key should be brought by the members.

(d) The Reception Committee has fixed the following rates for food per head :

Adults	...	Rs. 12/- per day.
Children up to 12 years	...	Rs. 6/- per day.

LONG DISTANCE SIGHT-SEEING

Arrangements for visiting Maithan Dam, Panchet hill Dam, Durgapur and Durgapur Steel Project and Coke Oven Plant, which will take about 18 hours for return journey, are being made. The charges per head inclusive of food have been fixed at Rs. 25/-. The distance to be covered is about 350 miles. Members desirous to take part in long distance sight-seeing are requested to send prior information to the Organising Secretary, at least a week before the Conference. Sight-seeing in and around the city—Rs. 4/- per head.

PROVISIONAL PROGRAMME

Tuesday, March 7, 1961 :

7-30 A.M. to 9-00 A.M. ...	Breakfast.
9-00 A.M. to 11-00 A.M. ...	Registration of Delegates.
11-00 A.M. to 1-00 P.M. ...	CENTRAL WORKING COMMITTEE MEETING (71st Session).
1-00 P.M. to 2-00 P.M. ...	Lunch.
2-30 P.M. to 4-30 P.M. ...	CENTRAL WORKING COMMITTEE MEETING.
4-30 P.M. to 5-00 P.M. ...	Tea.
5-00 P.M. to 8-30 P.M. ...	CENTRAL WORKING COMMITTEE MEETING.
8-30 P.M. to 10-00 P.M. ...	Dinner.

Wednesday, March 8, 1961 :

7-30 A.M. to 9-00 A.M. ...	Breakfast.
9-00 A.M. to 10-00 A.M. ...	Registration of Delegates.
10-00 A.M. to 1-00 P.M. ...	CENTRAL WORKING COMMITTEE MEETING.
1-00 P.M. to 2-00 P.M. ...	Lunch.
2-30 P.M. to 4-30 P.M. ...	CENTRAL WORKING COMMITTEE MEETING.
4-30 P.M. to 5-00 P.M. ...	Tea.
5-00 P.M. to 8-00 P.M. ...	CENTRAL WORKING COMMITTEE MEETING.
8-30 P.M. to 10-00 P.M. ...	Dinner.

Thursday, March 9, 1961 :

7-30 A.M. to 9-00 A.M. ...	Breakfast.
9-00 A.M. to 11-00 A.M. ...	Registration of Delegates.
11-00 A.M. to 1-00 P.M. ...	CENTRAL COUNCIL MEETING (21st Session).
1-00 P.M. to 2-00 P.M. ...	Lunch.
2-00 P.M. to 4-30 P.M. ...	CENTRAL COUNCIL MEETING.
4-30 P.M. to 5-00 P.M. ...	Tea.
5-00 P.M. to 8-30 P.M. ...	CENTRAL COUNCIL MEETING.
8-30 P.M. to 10-00 P.M. ...	Dinner.

Friday, March 10, 1961 :

7-30 A.M. to 9-00 A.M. ...	Breakfast.
8-00 A.M. to 10-00 A.M. ...	Registration of Delegates.
10-00 A.M. to 1-00 P.M. ...	CENTRAL COUNCIL MEETING.
1-00 P.M. to 2-00 P.M. ...	Lunch.
2-30 P.M. to 4-30 P.M. ...	CENTRAL COUNCIL MEETING.
4-30 P.M. to 5-00 P.M. ...	Tea.
5-00 P.M. to 8-30 P.M. ...	CENTRAL COUNCIL MEETING.
8-30 P.M. to 10-00 P.M. ...	Dinner.

N.B.—Post-Dinner Session of the Central Council, if necessary, as it will not be possible to provide any further time for the meeting of the Central Council after 4-30 p.m. on Saturday, March 11, 1961.

Saturday, March 11, 1961 :

7-30 A.M. to 9-00 A.M. ...	Breakfast.
8-00 A.M. to 10-00 A.M. ...	Registration of Delegates.

10-00 A.M. to 1-00 P.M. ... CENTRAL COUNCIL MEETING.
1-00 P.M. to 2-00 P.M. ... Lunch.
2-30 P.M. to 4-30 P.M. ... CENTRAL COUNCIL MEETING.
4-30 P.M. to 5-00 P.M. ... Tea.
8-30 P.M. to 10-00 P.M. ... Dinner.

Sunday, March 12, 1961 :

7-30 A.M. to 9-00 A.M. ... Breakfast.
8-00 A.M. to 9-00 A.M. ... Registration of Delegates.
9-15 A.M. ... Guests, Delegates and Visitors to take respective seats.
9-30 A.M. to 1-00 P.M. ... ALL-INDIA MEDICAL CONFERENCE — INAUGURAL SESSION :

(i) Presidential Procession.
(ii) Opening Song—*Bande Mataram*.
(iii) WELCOME ADDRESS by the Chairman, Reception Committee.
(iv) Messages.
(v) INAUGURATION.
(vi) INSTALLATION OF THE PRESIDENT-ELECT BY THE PRESIDENT.
(vii) Address by the Chief Guest.
(viii) Address.
(ix) PRESIDENTIAL ADDRESS.
(x) FORMATION OF THE SUBJECTS COMMITTEE.
(xi) OPENING OF THE SCIENTIFIC & PHARMACEUTICAL EXHIBITION.
(xii) Thanksgiving.

1-00 P.M. to 2-00 P.M. ... Lunch.
2-00 P.M. to 6-00 P.M. ... Sight-seeing.
2-30 P.M. to 4-00 P.M. ... SCIENTIFIC SESSION :

(i) Inauguration.
(ii) Scientific lectures, papers, etc.
(iii) Scientific film show.

4-00 P.M. to 4-30 P.M. ... Tea.
4-30 P.M. to 6-00 P.M. ... SCIENTIFIC SESSION.
6-30 P.M. to 9-30 P.M. ... Entertainment & Cultural Programme.
8-30 P.M. to 10-00 P.M. ... Dinner.
10-00 P.M. ... Subjects Committee Meeting.

Monday, March 13, 1961 :

7-30 A.M. to 9-00 A.M. ... Breakfast.
8-00 A.M. to 9-00 A.M. ... Registration of Delegates.
8-30 A.M. to 12-30 P.M. ... Sight-seeing.
10-00 A.M. to 1-00 P.M. ... SCIENTIFIC SESSION.
1-00 P.M. to 2-00 P.M. ... Lunch.
2-30 P.M. to 5-00 P.M. ... OPEN SESSION OF THE CONFERENCE.
5-00 P.M. to 6-00 P.M. ... Tea.
6-30 P.M. to 8-30 P.M. ... Entertainment & Cultural Programme.
8-30 P.M. to 10-00 P.M. ... RECEPTION COMMITTEE BANQUET.

Tuesday, March 14, 1961 :

7-30 A.M. to 8-30 A.M. ... Breakfast.
8-30 A.M. to 10-30 A.M. ... CENTRAL COUNCIL (ORDINARY SESSION) MEETING.
1-00 P.M. to 2-00 P.M. ... Lunch.
2-00 P.M. to 5-30 P.M. ... Sight-seeing.
3-00 P.M. to 5-00 P.M. ... SCIENTIFIC SESSION (if any).
4-00 P.M. to 5-00 P.M. ... Tea.
8-30 P.M. to 10-00 P.M. ... Dinner.

V RAJASTHAN PROVINCIAL MEDICAL CONFERENCE, 1960, KOTA

The 5th Rajasthan Medical Conference was held at Kota under the auspices of the Rajasthan State Branch of Indian Medical Association on 27th, 28th and 29th November, 1960 at Maharao Bhim Singh Hospital. About 250 delegates from all over Rajasthan attended. Dr. B. N. Sharma presided.

Dr. Jai Deo Prasad, Chairman, Reception Committee welcomed the delegates. Messages were received from the Prime Minister Shri Jawaharlal Nehru and Governor of Rajasthan, Sardar Gurmukh Nihal Singh and some eminent medical men of the country, Dr. Jivraj Mehta, Dr. B. C. Roy and Dr. H. N. Shivapuri, President, Indian Medical Association.

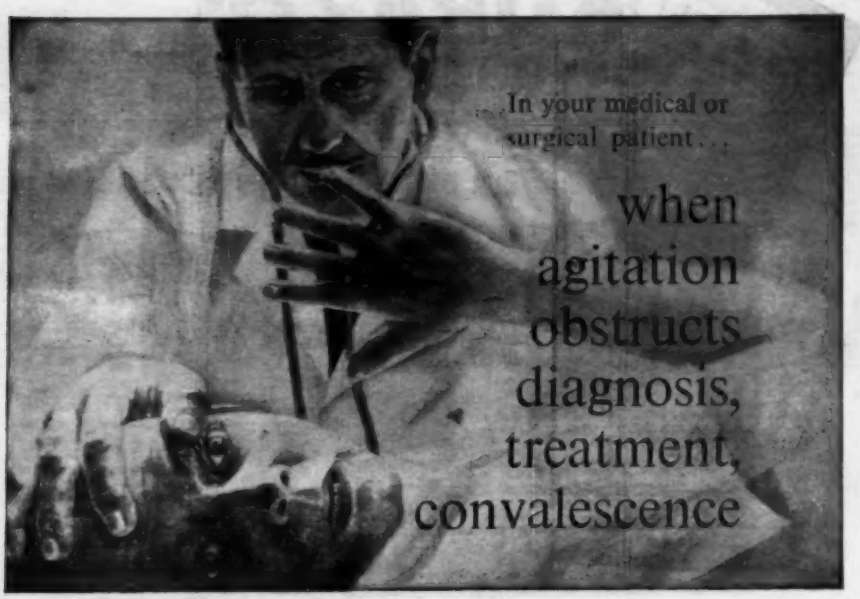
The conference was inaugurated by a Patient of the hospital. Addressing a gathering of about 500 delegates and dignitaries, Dr. Jai Deo Prasad, Chairman of the Reception Committee requested the patient to inaugurate the conference and bless the deliberations. He said that it was in the fitness of things that a conference of medicos be inaugurated by a patient since all their deliberations are directed towards his (patient's) betterment. The patient, an old man of 70 years, then delivered the inaugural address in a few words requesting the participating delegates to give all thought to removal and prevention of diseases and ill health paying special attention to villages. Earlier in his welcome address to the delegates Dr. Jai Deo Prasad pleaded for the betterment of the status of doctors and exhorted the Civil Administrators to take necessary steps for removing quackery which he described as a social evil and enforce legislation to prevent Food and Drug adulteration.

WELCOME ADDRESS

Reviewing the position of medical facilities in the province, he said "We are meeting after a long lapse of 4 years, the last conference being at Ajmer in September 1956. If we take stock of medical facilities in our state we find that one more Medical College has come into existence at Bikaner and two are in the offing. Several centres for nurses and compounders training have started and more and more primary health centres are coming up. Several new hospitals have been constructed, one of them being the venue of this conference, M. B. S. Hospital, which was completed and inaugurated in 1958 by His Highness Maharao Bhim Singhji of Kota. Since its inception, the strength of the doctors—including those possessing post graduate qualifications—has been increasing. The attendance of patients has greatly increased and so has the number of operations performed. Our doctors are working with great zeal and enthusiasm and try to give every possible service to the patients.

Our hospital bed strength is not adequate at all though we shall be adding 50 beds every year till it comes to the level of other "A" class hospitals of the state. Looking to the increasing demand, however, I hope the government will revise this scheme and provide a larger number of beds so that this hospital may serve as a nucleus of a future medical college. We do not have a hospital for T.B. patients although a T.B. clinic has started functioning and the sanction for its building is awaited. Looking to the plight of these patients arrangements for their hospitalisation is a necessity and I hope the government will provide at least a hundred bedded hospital for T.B. patients in Kota as it has done in other divisions of our state.

The deliberations lasted for 2 days and included a Symposium on Jaundice and three Scientific Sessions in which a large number of papers were read and discussed.



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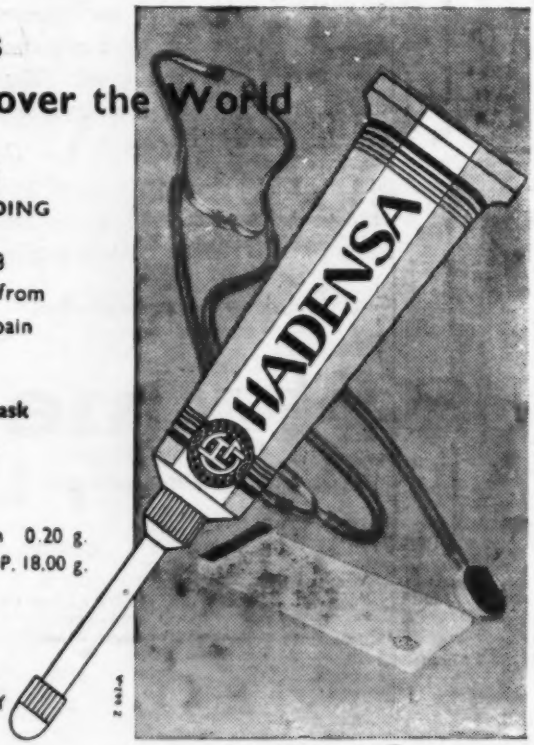

DR. B. N. SHARMA
PRESIDENT OF THE CONFERENCE

A Souvenir was also published giving information about articles of interest concerning history, culture and future developments of this region. For the entertainment of the delegates, cultural programmes were arranged in the evenings.

On this occasion a Health Exhibition was also organised by the Rajasthan Government at divisional level. It gave information about various aspects of prevention of diseases and Family Planning.

PRESIDENTIAL ADDRESS

Dr. B. N. Sharma, Director of Medical and Health Services, Rajasthan, who presided, told in his presidential speech that there was a great dearth of scientifically trained Medical Personnel. This he described as a national emergency to be met on war footings. The following is from his address :

"We are living in an age of great transformations, upheavels and scientific wonders. We have seen before our eyes withering of empires, liquidation of great dictatorships which had been threatening to engulf the entire world, and dawn of a new era of democracy. It seems as if the whole world is in a melting pot. If a few buttons are just pressed here and there, the whole civilisation would come to an end. All the progress man has made, all his dreams of the conquest of interplanetary space would be foiled and he would regress to the same stage of about half a million years ago when he first appeared on earth. Man has conquered the air space and now he has struck the moon. He has harnessed everything which presented to him in nature. His latest achievement is the discovery of atomic energy. Yet rushing madly from success to success, man has sadly lagged behind in a vital field the conquest of disease and starvation. It appears as if this battle for him has proved very tough. In this battle he has to face not merely physical things but he is up against living things and amongst living things, he himself is most dangerous. In the animal kingdom, one species kills the other but not the members of his own species. But Providence, has given this gift only to human species thot it kills his own members. In one single war he has destroyed more men than died in any one single pan epidemic in the world. His caprice, greed and hatred for his own species have brought about such mal distribution of food stuff that 2/3rds of the whole human race do not get enough to eat. From 1939 to 1945 more lives were lost in the world from starvation than from all the bombs and bullets of the war. Modern science has placed at our disposal means to build a healthy and happy world for us to live in. The W. H. O. through its numerous agencies all over the world is making tremendous efforts to eradicate contagious and infectious diseases and to make living healthy.

DR. JAI DEO PRASAD
CHAIRMAN, RECEPTION COMMITTEE

Today, it is quite possible to create better life for all men. People can be well-fed and made much happier but through sheer thoughtlessness, bitterness, hostile feelings and hatred, all these advantages could be ruined. Bad feelings between people cause unhappiness. Bad feelings between communities create tension and fear which could easily lead to war. It is easy to hate but difficult to put ourselves in the situation of others to understand them correctly. The world of today with quickest transport which man could ever devise, has shrunk to a small unit where it is easily possible to contact each other in any part of the globe and therefore very easy to establish goodwill, fellow-feeling between the community of men. But the advantage which the science has given to man, if used wrongly, can destroy the entire human population in no time. The old cause of tension between have-nations and have-not nations are fast disappearing. We can with better understanding create one world of Wilkie's imagination where there would be plenty for everybody and each could live in peace and harmony.

In this context you will see that it is given to the doctor to make the world healthier and to the politician to see that the world is safe from starvation. We have a prime duty towards human civilisation and I am sure that we shall neither falter nor shirk our responsibility to mankind.

Besides these problems of the world and mankind in general, we have our own local problems. Many of these are vexing our minds for a pretty long time and inspite of our efforts and eagerness to solve them, we have not reached anywhere near success, rather on the contrary facing insurmountable difficulties.

We want to create an all India cadre of Health Services. The Central Council of Health under the Presidentship of Rajkumari Amrit Kaur and Shri Karmarkar had on several occasions made recommendations to the State Government that an All India cadre of Health

Services should be created like other services as for instance Indian Administrative Service, Indian Police Service etc., but it has not made any headway. The question of bringing the pay scale of Health Services at par with other services, has been discussed and debated in every meeting and conference, at district level, provincial level and all India level. But this too it seems has remained unsolved till this day. It reminds me of the old Liberals who used to pass pious resolutions for grant of Home Rule to India. It was only when Mahatma Gandhi came on the political stage, that India attained some success in this direction. And this change was not brought about through revolt, revolution, anarchy or bloodshed but by mobilising public opinion and through unity of thought and action. May I take you back to the days of the Round Table Conference in London. As you might remember the first conference was boycotted by the Congress, but attended by the representatives of the Liberal Party. On that occasion Pandit Motilal Nehru said for those who were attending the Round Table Conference, "We here in India are creating a sanction." The word "sanction" is very significant. It means the strength which we have to back our resolution. The unity of thought and deed is what is the most important. The entire opinion of medical men should be mobilised and focussed in this issue. If this is done I have no doubt in my mind that success is assured. Let us not forget in the present-day world, an individual is just like a small drop in the bucket. He derives his strength from the organisation to which he belongs. The stronger the organisation, the stronger are its members.

There is an acute shortage of medical and para-medical personnel all over the country and even multiplication of medical colleges would not give us the required number of Doctor for a long time to come. We may have to devise some shorter courses of medical studies to enable us to overcome this difficulty. Many other countries in the world like Soviet Russia, Poland, Yugoslavia did it in a novel manner. In U. S. S. R. soon after revolution they needed a large fleet of paediatricians and dentists. They selected science students from the Universities, gave them a short-term training in paediatrics and dentistry and sent this huge army of doctors to small towns and villages. The emergency problem should be solved in an emergency manner. The solution of peace time do not hold good in times of emergency. In India two hundred million people live in villages. They have not even an apology of medical aid and another hundred million living in the cities too have hardly any medical aid worth the name. Our conditions are akin to what at one time or other existed in other parts of the world. The solution should therefore be on similar lines. May we not try a short training of three years in Medical Course keeping Inter Science with Biology as Basic qualification. He would be known as Medical Assistant, after this training, but it won't be a registrable qualification. He could be posted to small Hospitals and Dispensaries as Medical Assistant and after a short time—say 2—3 years, he may be called back for competing the M.B.B.S. Course. To my mind it appears that this new approach may help us in overcoming the initial difficulties of shortage of staff.

Another unfortunate factor is that a large number of well-trained and qualified doctors are waiting employment for many long years. It is not paradoxical that on one hand we have shortage of doctors and on the other hand we have a big number still unemployed. It is a sad commentary on the system of administration. Then there is yet another paradox that doctors are sent for training under different Fellowships but their training is not recognised. Even those who come back after training cannot be properly utilised for lack of equipment and by the time the equipment is received, probably he needs a refresher's course. These are painful facts, but cannot be lost sight of. I, therefore, appeal to you to give thought to these important questions.

Our system of training should be shaped on the same lines as in vogue in U.S.A., Europe and Britain where a doctor scales to the top rung by rung and tier by tier. In this manner he gets a thorough training and devotes more of his time and energy of youthful years to research and scientific work. The great void that we experience today between the top-men and the youngmen would be eliminated. A long team of well-trained successors shall always be available.

DR. D. L. CHHANGANI
ORGANISING SECRETARY

In summing up, may I remind you once again that we are living in an age of great achievements, grave crises and uncertain future. It is, therefore, our prime duty to keep ourselves fully awake and aware of all that is happening around us. Let us shake off our old disease of conservatism and inflexibility. At one time in one of my speeches I said that had we just peeped through the windows in the Himalayas and seen what was happening in other parts of the world, the history of India would have been written in different letters changing conditions. The one great lesson that our past history teaches us is that we should learn to adjust to changing conditions.

I appeal to you for unity and solidarity in your rank.

RESOLUTIONS

In the opening session of the Conference the following resolutions were adopted :

1. A day off every week should be given to all medical officers as also to other employees of medical department just as it is being given to all employees of essential services e.g. Railways, Posts and Telegraphs.

In order that work of hospitals may not suffer half the staff may be given off on Saturdays and the other half on Sundays. Where solitary staff is provided the institution may provide only emergency treatment on Sundays.

2. The General Body of the Rajasthan State Branch of the Indian Medical Association recommend that a sub-committee formed by the Executive Body of the Association of the following members :

1. Dr. S. P. Wanchoo, P. M. & H. O., Ajmer,
2. Dr. L. M. Sanghvi, Physician, S. M. S. Hospital, Jaipur,
3. Dr. P. D. Mathur, Surgeon, S. M. S. Hospital, Jaipur,

be requested to take up the question of the abolition of the two cadres of C. A. S. I. and C. A. S. II amalgamating them into one cadre of C. A. S. D. and at the same time request this sub-committee to take up this subject with the Government for upgrading the pay scale and the other services in the Medical Department and equating the status of our service at par with other services in the State.

3. Resolved that Government be requested to provide rent free accommodation to the emergency staff of the hospital or suitable rent where proper accommodation is not available. Where there is only one medical officer he may be provided free accommodation, where there are two one of them may be given. Similar rent free accommodation be provided to the para-medical staff also.

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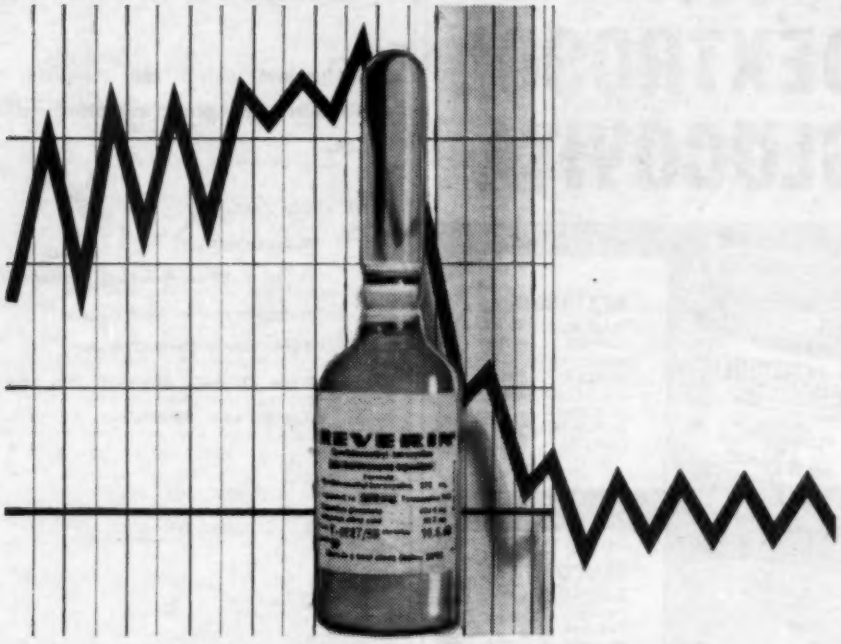

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4. Resolved that the house is of the opinion that the doctors who are undergoing condensed course at S. M. S. Medical College, Jaipur be exempted from attending further classes, once, they have completed two years period of study, if per chance they are held up, and be allowed to appear at University Examination.

BRANCH NOTES

ALLAHABAD BRANCH—The following scientific meetings were held as detailed below.

On 7-10-60, Dr. Y. P. Naithani spoke on some comments on Acute Abdomen and Capt. K. L. Atri on Vitamin Deficiency States. On 26-10-60, a clinical meeting was held at the Military Hospital and a discussion was held on cases of (a) Haematuria, (b) Haemothorax. On 10-12 November 1960, A Review of the subject of E.C.G. Studies was given by Dr. A. K. Mukerji. On 16-12-60, Dr. Y. P. Naithani spoke on Management of Injuries in general practice.

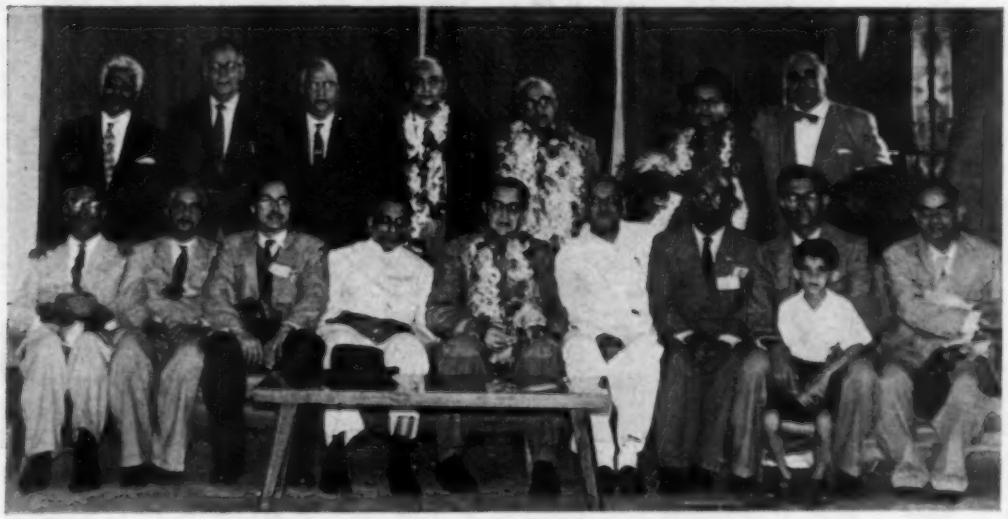
The annual report of the branch for 1959-60 states that there was no appreciable improvement in membership position. In the year, 25 meetings including the annual general meeting was held, of which 7 general meetings, 5 executive committee meetings, 3 clinical meetings, 8 scientific meetings, the rest were Republic Day and the other the Independence Day meeting. The annual cricket match, the annual sporting festival and 2 film shows were held. The president of I.M.A., Dr. H. N. Shivapuri paid a visit to this branch and addressed the members on 5-5-60 when a dinner was held in his honour.

BAREILLY BRANCH—A meeting of the executive committee was held on 15-12-60. Twelve members were present. The following sub-committees were formed: (1) Membership and Attendance Promotion Committee; (2) Social and Entertainment Committee; (3) Programme Committee and (4) Library Committee. Dr. Dhillon and Dr. Inderjeet were requested to arrange for the 26th January entertainment. Dr. Puri, Dr. Ram Pratap Singh, Dr. Bhandari and Dr. Kapoor offered for holding the subsequent meetings at their residences by turn. It was decided to stop circulating journals and to provide a suitable place for the library where office also may be maintained. Dr. Srivastava offered to arrange this in a back room of the Civil Surgeons office. Dr. Dhillon was requested to go in the details of the proposition. It was decided to invite the members for a picnic party to be arranged at Bhowali and Bhimtal.

BHAGALPUR BRANCH—The annual general meeting of the branch was held on 24-12-60. Dr. Ahmad Hussain presided. The annual report and the audited accounts were adopted. Dr. B. N. Das Gupta of Darbhanga spoke on Nephritis in Children. Sixty members were present. Office-bearers for 1960-61 were elected with Dr. Ahmad Hussain as president; Dr. S. Mitra and Dr. J. Dubey as vice-presiidents; Dr. S. Sen as secretary; Dr. A. Mitra as organising secretary; Dr. S. Ghosh as joint secretary; Dr. Aziz Ahmad as treasurer, Dr. Mitra as auditor; Dr. S. Mitra as member, Central Council; Dr. S. D. Gupta, Dr. Md. Yunus, Dr. T. P. Choudhury and Dr. S. Ghosh as members of the State Council.

BOMBAY TERRITORIAL BRANCH—The following clinical and scientific meetings were held. On 4-7-60 Dr. Bram Rose spoke on Effects of Long term Anti-inflammatory Steroids. Dr. R. V. Sathe presided; on 25-8-60 Prof. Dr. Petro De Nicola spoke on Haemostatic and Haemocoagulant Therapy (illustrated with slides). Dr. H. I. Jhala presided; on 15-9-60 film shows were held on (1) Cancer, the problem of early diagnosis, (2) Diseases of Ear Nose and Throat, (3) Diseases of the Gall Bladder, (4) Fractures, an introduction. Dr. R. B. Vircar presided; On 22-9-60, film shows were held on (1) Plastic and Reconstruction Surgery of the Hand, (2) Sciatic Pain and the Intervertebral Disc, (3) Seizure, Medical Treatment and Social Problems of Epilepsy.

On 3-10-60, Dr. A. Hofman spoke on Some Substances Acting on Mental Function (Psychotomimetic substances). Dr. K. R. Masani presided; On 2-10-60, a symposium on



Dr. H. N. Shivapuri, President IMA, along with other Members of the III IMA Study Tour Photographed at Santa Cruz Aerodrome on Their Return

Fungus Diseases of the Skin, Hairs and Nails were held, Drs. (Miss) M. L. Bhat, (Mrs.) A. S. Vedrankar, L. Marquis, S. C. Desai, V. R. Mehta and J. Fernandez participated in it. Prof. J. Walter Wilson presided.

On 5-10-60, Prof. Walter Wilson spoke on Some Recent Trend in Dermatology. Dr. A. C. Rebello presided.

On 1-11-60, Scientific films on (1) Siquil in Surgery, (2) The Physiology of Natural and Synthetic Adrenal Steroids, (3) Resuscitation for Cardiac Arrest, were shown. Dr. J. J. Merchant presided.

A Reception was arranged by the Territorial Branch at Santa Cruz Aerodrome on 6-10-60 to all the members of the III I.M.A. Study Tour who returned at about 4 P.M. Dr. H. N. Shivapuri, the president, IMA and Dr. Mehra, the hony. jt. secretary were garlanded. In the evening a dinner was arranged when Dr. H. N. Shivapuri was the chief guest of honour. Dr. Shivapuri and Dr. Mehra related their experiences of the tour and appealed to members for donations to the Central Building Fund. Dr. S. C. Sheth, the president proposed a vote of thanks. The function was well attended.

BOMBAY WEST SUBURBAN BRANCH—The monthly general meeting of the branch was held on 9-10-60 with Dr. S. J. Bhatt, the vice-president in the chair. Eighty doctors were present. Dr. M. R. Mistry gave a talk on Do Surgery at your Dispensary. The following films were shown: (1) Artificial Kidney of Alwell; (2) Fothergill's operation for Uterine Prolapse; (3) Delivery of Triplets with low Spinal Anaesthesia; (4) Holiday for all,—hill stations of Maharashtra state.

The monthly meeting was held on 6-11-60. Dr. S. C. Sheth, the president was in the chair. Sixty doctors were present. A symposium on Pelvic Pains in Gynaecological Conditions was held; Dr. S. R. Prodhan spoke on Aetio-Pathology. Dr. (Miss) Kamal V. Honowar spoke on Symptomatology, Dr. P. G. Baxi spoke on Treatment. Five films were shown.

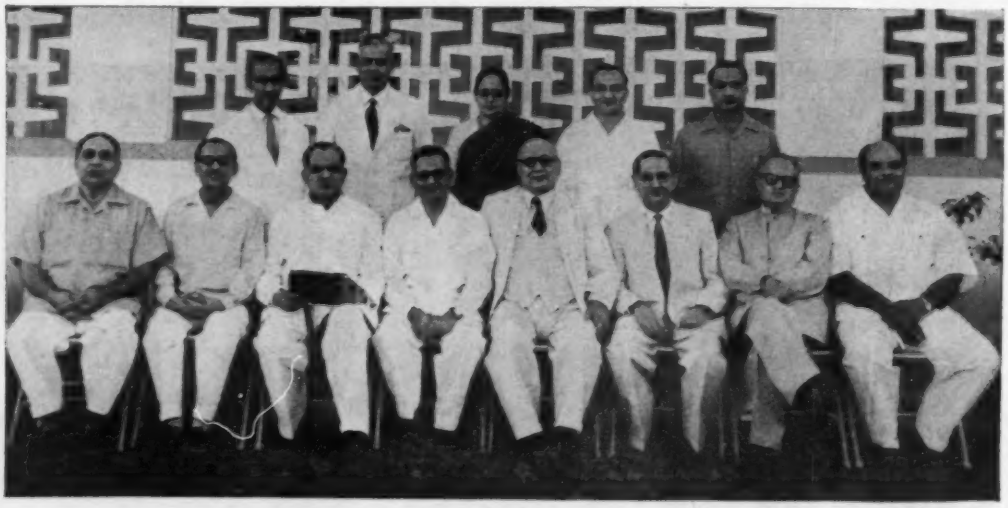
A managing committee meeting was held on 6-11-60, when agenda for the annual general meeting and the programme for the Annual Association Day were finalised.

The annual general meeting and the Annual Association Day programmes were held on 18-12-60. Sixty members and 4 guests were present. The minutes of the last annual general meeting, the annual report and the audited accounts were confirmed. Office-bearers for 1960-61 were elected with Dr. S. C. Sheth as president; Dr. A. M. Shah and Dr. S. J. Bhatt as vice-presidents; Dr. M. D. Panchmia and Dr. S. J. Mehta as hony. secretaries; Dr. J. M. Kotwal as hony. scientific secretary; Dr. C. T. Thakar as hony. treasurer. Dr. R. V. Sathe, President-Elect, I.M.A. was felicitated on his election as president of I.M.A. for the next year. Dr. S. C. Sheth introduced Dr. Sathe to the members, Dr. C. S. Thakar wished Dr. Sathe and Dr. (Mrs.) Sathe a long, healthy and prosperous life. Dr. (Mrs.) K. Sankari garlanded him and offered bouquet to Dr. (Mrs.) Sathe. Dr. R. V. Sathe replied suitably. Vice-president Dr. A. M. Shah proposed thanks to Dr. Sathe and Dr. (Mrs.) Sathe and other notable guests and invitees.

Finally, the invitees, members and guests enjoyed the Annual Day Buffet Dinner.

A meeting of the Managing Committee was held on 24-12-60. Dr. C. S. Thakar and Dr. P. P. Karnik were co-opted as members of the committee and the expenditure, accounts of the last annual Association Dinner Programme held on 18-12-60 were approved.

The annual report of the branch for 1959-60 shows that membership increased from 155 to 180. The managing committee held 11 meetings during the year. The financial position was very satisfactory. During the year, 12 scientific sessions were held. Ten case demonstrations were held and a large number of films were shown. Scientific, educational and excursion visits were also arranged during the year.



OFFICE-BEARERS AND MEMBERS OF THE MANAGING COMMITTEE, BOMBAY WEST SUBURBAN BRANCH OF IMA (1959-60)

Sitting (*L—R*) : Dr. C. T. Thakar, Dr. M. D. Panchmia, Dr. A. M. Shah, Dr. S. C. Sheth, Dr. C. S. Thakar, Dr. S. J. Bhatt, Dr. J. M. Kotwal and Dr. S. J. Mehta. Standing : Dr. T. K. Babur, Dr. P. G. Vartak, Dr. (Mrs.) K. Sankari, Dr. B. C. Kothari, and Dr. S. T. Kantawalla.

INVITEES, GUESTS AND MEMBERS OF BOMBAY WEST SUBURBAN BRANCH OF IMA WITH DR. R. V. SATHE, PRESIDENT-ELECT, IMA

BHUBANESWAR BRANCH—The annual general meeting was held on 3-1-61. Dr. G. C. Pattanaik presided. Fifteen members were present. Office-bearers for 1960-61 were elected with Dr. Satpathy as president; Dr. G. D. Mahapatra as vice-president; Dr. K. C. Roy as secretary; Dr. Leelabati Pattanaik as joint secretary and Dr. U. C. Ghosh as treasurer.

BONGAIGAON BRANCH (ASSAM)—The second annual meeting of the branch was held on 23-12-60 at the local Railway Hospital. Ten members were present. During the year 1959-60 eight meetings were held including three clinical meetings. Following office-bearers were elected for the year 1960-61 : President—Dr. S. M. Ganguli; Vice-president—Dr. D. C. De; Secretary—Dr. S. B. Chakrabarty.

A dinner party was arranged on the occasion.

CUTTACK BRANCH—The annual general meeting was held on 21-12-60. Fifty-two members were present. Dr. G. Pattanaik presided. Office-bearers for 1960-61 were elected with Dr. George Pattanaik as president; Dr. S. C. Misra and Dr. S. Mukherjee as vice-presidents; Dr. Nirupama Naik as secretary; and Dr. R. K. Parida and Dr. U P. Naik as joint secretaries.

DHANBAD BRANCH—The annual meeting of the branch was held on 3-10-60. Dr. M. M. Saha presided. Thirty six members were present. After the president's speech the annual report and the audited account for 1959-60 were adopted. The members resolved that medical licentiates should not be debarred from examining cases of L.I.C. of more than 5,000/- as at present. It was also resolved that all medical practitioners should be eligible and should be appointed as certifying surgeons by the Chief Inspector of Mines.

Office-bearers for 1960-61 were elected with Dr. B. P. Gyani as president; Drs. S. K. Mazumdar, P. B. Mazumdar, S. K. Sarkar and M. S. Kapoor as vice-presidents; Dr. H. N. Mukherjee as hony. secretary Drs. B. P. Azad, S. Ahamad, S. Mukherjee, L. C. Mitra as joint secretaries; Dr. K. P. Roy as hony. treasurer; Dr. S. N. Ghosh as auditor; Dr. R. C. Mukherjee as hony. secretary, Health Week Committee; Drs. H. N. Mukherjee and S. Roy as members of the Central Council; Drs. H. N. Mukherjee, L. C. Mitra, R. Mukherjee, B. N. Hazra, S. Roy, S. M. Sarkar, P. K. Dutta and Capt. S. C. Maitra as members of the State Council.

GARDEN REACH BRANCH—The general election for 1960-61 was held on 23-10-60. Office-bearers for 1960-61 were elected with Dr. U. Banerjee as president; Dr. U. K. Sengupta, Dr. B. K. Kundu, Dr. A. Hasan as vice-presidents; Dr. A. K. Ghosh as secretary; Dr. P. K. Roy, Dr. P. N. Pramanik as asst. secretaries; Dr. K. K. Bose as cashier; Dr. B. K. Kundu as Central Council member. The president at the ontset gave a short history of the activities of the branch. Five clinical meetings and a film show were arranged during the year.

JADAVPUR BRANCH—The annual general meeting was held on 14-11-60. Dr. M. K. Mazumdar presided. Office-bearers for 1960-61 were elected with Dr. M. K. Mazumdar as president; Dr. N. C. Talukdar as vice-president; Dr. M. Mitra as secretary; Dr. H. N. Das Gupta as treasurer; Dr. N. K. Mazumdar, president of the branch as member of the provincial branch.

JAGATDAL BRANCH—The members of the Jagatdal branch condoled the sad and sudden death of Dr. Souren Sengupta, the hony. secretary of the Bengal Provincial Branch.

KALYAN BRANCH—A meeting of the branch was held on 26-11-60. Office-bearers for 1960-61 were elected with Dr. N. H. Welankar as president; Dr. A. V. Kulkarni as secretary; and Dr. D. R. Patwardhan as jt. secretary. In a meeting held on 16-12-60, it was decided to have a sub-committee with the president, secretary, past-president and three senior members, to direct the smooth running of the branch.

KARIMNAGAR BRANCH—The monthly clinical meeting of the branch was held on 25-12-60 with Dr. Ahmed Hussain, the Superintendent and the D.M.O. in the chair. Dr. Syed Sarfaras Khan, asst. Superintendent and asst. D.M.O. spoke on diagnosis, the differential diagnosis and treatment of Red Eye which is a common ailment met in general practice. Dr. K. Parondhan, asst. surgeon, Hqrs. Hospital spoke on Cirrhosis of the Liver, describing the different stages of the disease and presented 6 cases from the Hqrs. Hospital. Dr. Jagan Mohan, asst. surgeon of Hqrs. Hospital presented a case of Dermoid Cyst of the Ovary in a girl of 12 years where

after laparotomy it was found that the uterus was atrophied and the other side of ovary and the tube were hypertrophied.

K.G.F. BRANCH—The monthly clinical meeting was held on 23-12-60 at the K. G. F. Hospital. Dr. B. Venugopal was in the chair. Fifteen members were present. A condolence resolution was passed on the sudden demise of Dr. V. N. Ananda Theertha on 23-12-60 after an heart attack.

Dr. H. D. Chandrappa Gowda presented a case of "Enlargement of Liver in an adult aged about 25 years". Lively discussion followed. Later the following films were screened : "Antihistaminic Drugs", "Judet's Arthroplasty".

The monthly clinical meeting of Kolar and K.G.F. branches was held on 7-1-61 at the K.G.F. Club. Thirty-three members were present. Dr. H. A. Nagaraja Rao presided over the meeting. Dr. M. Shivaram from Bangalore addressed the members about his impressions in Moscow and Vienna. A Dinner was held.

KIRNAHAR BRANCH—The 9th general meeting (annual) was held on 24-12-60 at Gopalpur with Dr. S. K. Saha in the chair. Fifteen members were present. At the outset, the members condoled the death of Drs. S. K. Basu, the late Principal of the Calcutta Medical College, S. R. Mukherjee of Suri, D. Banerjee of Rampurhat and those who were victims of language riots in Assam. The annual report and statement of accounts were passed. Drs. S. K. Saha, K. G. Chandra and A. K. Khan were re-elected president, hony. secretary and hony. treasurer respectively. Drs. B. C. Mukherjee and M. M. Mandal vice-presidents, Drs. G. R. Das and T. P. Mondal, hony. secretaries. The members urged the Health Directorate to take a representative of the branch of the IMA in the advisory committees of rural health centres, electrification of Kirnahar and Labpur Health Centres, annexation of family planning clinics to health centres, revising the daily dietary allowances to patients in rural hospitals, utilisation of services of rural practitioners in hospitals or dispensaries for ameliorating their economic distress.

KOLAR BRANCH—A clinical meeting was held on 24-12-60. Dr. S. Sam Ross presided. The members condoled the death of Dr. V. N. Ananda Theertha, the secretary of the branch, and placed on record the valuable services and the keen interest he evinced, in the activities of the branch. It was decided to convey their heartfelt condolences to the members of the bereaved family.

KRISHNA DISTRICT BRANCH—The annual meeting of the branch was held on 9-10-60. Dr. T. Narayana Reddy presided. Dr. S. Hanumantha Rao unveiled the portrait of Late Dr. M. Nageswara Rao, vice-president of the branch. Dr. Rao, Dr. P. S. Giri and R. Atchutaramaih eulogised late Dr. M. Nageswara Rao's life and activities. Dr. Koka Subbarao read English verses written by him for the occasion.

After prayer by Miss Satyavati, Sri G. S. Raju, Dy. Chairman, Andhra Pradesh Legislative Council spoke about late Dr. Yellapragada Subbarao and unveiled the portrait of late Dr. Y. Subba Rao. Sri Raju who declared open an exhibition arranged in this connection.

The annual report and audited accounts for 1959-60 were adopted. Office-bearers for 1960-61 were elected with Dr. T. Narayana Reddy as president; Dr. S. Hanumantha Rao as vice-president; Dr. T. T. V. Subrahmanyeswararao as general secretary; Dr. D. Subba Rao as joint secretary ; Dr. M. Subba Rao and T. Gangaraju were elected members of the State and Central Committees respectively. It was decided to make Dr. P. S. Giri a hony. member of the branch in view of his services to the branch and donation of site of the present building. The scientific session, Dr. B. K. Naik, vice-principal, Osmania General Hospital, Hyderabad presided. Dr. K. Venkata Rama Sastry spoke on Radiology in Diagnosis of chest diseases; Dr. G. Lakshmanarao on Eclampsia in Rural Practice; Dr. M. Subba Rao on Ocular Syphilis. Dr. P. S. Giri on Rh Factor and Dr. J. V. R. Sarma on Common Eye Diseases and the general practitioner. Dr. P. S. Giri, president of A. P. State Branch of I.M.A. declared open "Dr. Kavipurapu Venkata Subbarao Memorial Library". Dr. Naik spoke on Coronary Heart Disease and the curative and preventive methods of the heart disease. The secretary proposed a vote of thanks.

MANDAPETA BRANCH—The 6th anniversary function of the branch was held on 24-12-60. Dr. P. Narayana Rao, Superintendent General Hospital, Kakinada presided. Prof. Satyabhama Reddy, of Guntur Medical College spoke on Haemorrhage during Pregnancy and Labour. Prof. C. Vyagreswarudu spoke on T. B. Spine and showed a colour film of some of his operations. Eighty doctors from all over the district were present.

MEDAK BRANCH—The monthly clinical meeting was held on 1-1-61. Dr. Ibrahim Ali Khan, District Medical Officer, presided. Dr. Janardhan Reddy presented 2 cases of Arsenical Encephalopathy and Pyogenic Meningitis. Most of the doctors of the district attended the meeting. Dr. (Miss) Kudri Moti presented a case of Vitamin A deficiency. She also spoke about a case of Rat Bite and its treatment.

MEERUT BRANCH—The annual general meeting of the branch was held on 19-11-60. Office-bearers for 1960-61 were elected with Dr. R. R. Mital as president; Dr. S. P. Gupta as secretary; Dr. P. K. Caroli as joint secretary; Dr. C. M. Gupta as financial secretary; Dr. R. C. Agarwal as library secretary and Dr. K. C. Jain as social secretary. Dr. C. M. Gupta and Dr. S. K. Bhargava were elected representatives on U. P. Medical Council of IMA; and Dr. A. S. Mahesware on the Central Council of IMA.

The annual report of the branch shows a decline in membership, the total strength coming down to 78. Total meetings held during the year were 25, including 12 clinical, 1 ordinary, 1 condolence, 2 social, 1 film show and 8 executive committee meetings. Many eminent doctors from outside were invited to address some of the clinical meetings. Besides various interesting subjects, a symposium was held during the year on Respiratory Diseases. Fourteen journals were subscribed. Twelve books were added to the library.

MONGHYR BRANCH —A meeting of the branch was held on 25-12-60 at Bhimbandh at the invitation of Dr. Vidyanand Lall of Gongta. Dr. K. P. Mitra presided. Besides the routine business, the house elected Dr. S. Safdar Ali Khan, Civil Surgeon as chairman and Dr. N. K. Prasad as hony. secretary of the health week committee.

NUNGI BATANAGAR BRANCH—The annual general meeting of the branch was held on 31-12-60. Dr. A. T. Paul presided. The last year's report was read. It was suggested to arrange more clinical meetings in the present year, also to hold meetings at different places. It was also decided to start a small library. The accounts for the year 1959-60 were adopted. Office-bearers for 1960-61 were elected with Dr. A. T. Paul as president; Dr. N. K. Mitra as vice-president; Dr. A. N. Roy as hony. secretary; Dr. A. N. Roy as member of the Central Council; Dr. A. B. Basu and Dr. A. N. Roy as members of the Provincial Council.

ORISSA STATE BRANCH—The State branch organised the Family Planning Centre, Cuttack. Dr. R. P. Misra, Health Minister, Orissa, inaugurated the function.

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An exhibition and demonstration of various family planning methods were held for a week. The function was largely attended.

PUDUKKOTTAI BRANCH—An ordinary meeting was held on 20-11-60 in the Town General Hospital, Pudukkotai under the presidentship of Dr. V. K. Ramachandran. The function started with tea. Two minutes' silence was observed in memory of late Dr. Kamalamma who was the president of the branch for a number of years. Dr. N. Thiagarajan, the secretary welcomed the members and requested those present to join the I.M.A., if they had not become members already. Dr. Subramanian, of the Town General Hospital, outlined the plans for the ensuing Centenary Celebrations of the Town General Hospital and Ranee's Hospital, Pudukkottai. Two cases were presented. One was a case of Mucoid Carcinoma of the Rectum, in a boy aged 19. Dr. Miss Oliver then presented a case of Tumour of the Kidney. A lively discussion ensued in which several members took part and the meeting came to a close with a vote of thanks.

PURULIA BRANCH—The annual meeting of the branch was held on 31-10-60. Twenty members were present. Office-bearers for 1960-61 were elected with Dr. A. T. Roy as president; Dr. P. K. Mallick and Dr. T. P. Roy as vice-president; Dr. A. K. Gupta as secretary and treasurer; Dr. A. S. De as joint secretary; Dr. A. K. Kabiraj as member of the Central Council; Dr. K. B. Mukherjee as member of the Provincial Council.

RAJASTHAN STATE BRANCH—The following have been elected office-bearers of the State Branch for 1960-61 : Dr. B. N. Sharma as president; Dr. N. A. Cowasjee, Dr. D. G. Ojha, Dr. L. R. Sarin as vice-presidents; Dr. Tara Shankar Mathur as secretary; Dr. D. L. Chhangani, Dr. P. C. Dore, Dr. G. D. Pareek as joint secretaries; Dr. P. K. Sethi as treasurer; Dr. R. P. Sarda as auditor; representatives to the Central Working Committee—Dr. S. P. Wanchoo, and Dr. Tara Shankar Mathur.

The 7th general meeting of the State Branch was held on 28-11-60 on the occasion of the V. Rajasthan Medical Conference. Dr. B. N. Sharma, the president of the State branch was in the chair. The members at the outset condoled the death of Dr. Durga Sahai, Dr. Jwala Prasad Maheswari, Dr. (Col.) Gurubux Singh and Dr. P. P. Rawat. The report of the working and progress of the state branch presented by the secretary was adopted.

SIRMUR BRANCH—The annual function of the branch was held on 18-11-60. Dr. Krishan Swarup presided. The annual report and the annual audited accounts were adopted. Office-bearers for 1960-61 were elected with Dr. Krishan Swarup as president; Dr. F. D'souza as vice-president; Dr. G. L. Tuli as hony. secretary; Dr. H. P. Sarkair as hony. joint secretary-*cum*-treasurer; Dr. Krishan Kant as auditor. A symposium on Deficiency Diseases was next held in which most of the doctors participated.

SOUTH KANARA BRANCH—The annual general body meeting of the branch was held on 4-12-60 at the premises of the Kasturba Medical College, Mangalore. The following office-bearers were elected : Dr. M. V. Shetty—president; Dr. M. V. Chari and Dr. V. R. Bhat—vice-presidents; Dr. B. R. Rama Rao—hony. secretary and treasurer; Dr. K. K. Bhat—jt. secretary.

Dr. S. V. Govind Shetty addressed the members on Pitfalls in the Diagnosis and Treatment of Diabetes.

TARAKESWAR BRANCH—A general meeting of the branch was held on 23-10-60. Office-bearers for 1960-61 were elected with Dr. S. N. Mukherjee as president; Dr. H. S. Dutta, Dr. R. R. Paul and Dr. M. Bera as vice-presidents; Dr. R. K. Goswami as secretary; Dr. N. K. Dhara, Dr. C. S. Dhara as asst. secretaries; Dr. N. C. Banerjee as member of the Central Council; Dr. P. N. Roy Choudhury, Dr. N. C. Banerjee, Dr. A. B. Chatterjee and Dr. P. Nayak (Subject to his release from Calcutta Branch) as members of the provincial branch.

The branch reached its 14th year from October 1960. Last session, membership strength increased from 69 to 74. Dr. Bijoy Ballav Karfa, a member and ex-president of the branch, donated a sum of Rs. 3,000/- to the Tarakeswar High School towards scholarship for poor students. Six general meetings including annual meetings were held during the session. Three Refresher Course lectures were delivered on Tropical Eosinophilia, Peptic Ulcer and Apoplexy, the first two by Dr. H. S. Datta and the last one by Dr. S. N. Mukherjee, president of the branch. The members took part in the discussions. The branch fought for the uplift of standard of health centres, social organisations and general depression of medical men in village areas. The branch donated Rs. 50/- towards Flood Relief in the last year's flood havoc and has been gaining increased popularity amongst general public.

TENALI BRANCH—A meeting was held at the Taluk Higher Secondary School on 18-9-60 with Dr. C. Krishnaiah in the chair. Tea was given by Dr. Khadder Khan of Cherukupalli. Dr. B. Ramannarayanamurthy, Professor of Bacteriology, addressed the gathering on Viral Encephalitis.

The secretary's annual report was read and accepted. The following office-bearers for 1960-61 were elected : President—Dr. B. Suryanarayana Sastry; Vice-President—Dr. M. Khadder Khan; Secretary—Dr. B. Pullaiah; Joint Secretary—B. L. Narasimham.

Resolutions were passed authorising the Secretary to operate the Bank account and a note was sent to post office to receive letters.

Nominations for the office of the President and Vice-Presidents were made. After a vote of thanks by the secretary, the meeting terminated.

A meeting was held in Chandramouli Hall on 16-10-60. Dr. Krishnaiah was in the chair. After a few words thanking the members for their co-operation, Dr. B. S. N. Sastry, the incoming President. was requested to take the chair. He made a short speech, promising to do his best for the Association. Then he traced the history of cardiology by way of a few introductory remarks and requested the chief guest of the evening Dr. K. Suryanarayana, Prof. of Medicine, Guntur Medical College, to deliver the inaugural address on Cardiovascular Emergencies. The speaker gave a brilliant and lucid address. Later, he was thanked by the President.

Then, a resolution was passed unanimously thanking the outgoing office-bearers for the good services they had rendered to the Association.

After reading of some circulars from the Central Office the meeting closed with a vote of thanks to the chief guest of the evening, to the members who narrated some interesting anecdotes, to Dr. K. Vullakki for the Tea, and lastly to the Bank authorities for lending their Hall.

A meeting was held in the house of Dr. K. V. Narasimha Rao on 6-11-60 with Dr. B. S. N. Sastry in the chair.

A case of Multiple Cystic Swellings in the Abdomen in a man aged 60 was presented by Dr. Pullaiah. A case of Tumour in the Groin in a woman aged 35 was presented by Dr. B. S. N. Sastry and both were thoroughly discussed in which the chief guest also took part.

Then, after a short introductory speech about x-rays, the president introduced the chief guest of the evening,

Dr. S. Venkateswarau, Superintendent of Guntur General Hospital and Radiologist. He gave a lecture on the changes brought about in the contour of the heart and its chambers and also the changes in the lung fields due to enlargement of the heart and its decomposition. A number of interesting x-ray films demonstrating those changes were shown.

Next, the election of the office-bearers to the Andhra Pradesh State Branch took place.

With a vote of thanks to the chief guest, to the host Dr. K. V. Narasimha Rao, and to the members by the Secretary, the meeting closed.

TIRUCHY BRANCH—The 32nd Inaugural Meeting of the Association was held on 19-11-60 with Dr. P. V. Sundaram in the chair. 50 members and 20 visitors were present. After welcoming the members and guests, the secretary read the minutes of the last meeting which was approved by the members. After Tea the president requested Dr. R. Kalamegham to address the members on his recent visit to foreign countries.

The lecturer gave a complete outline of the places he visited and showed a number of beautiful colour slides which was very much appreciated by the house.

Rev. Fr. Hessain of Campion High School, Tiruchy also spoke on the occasion and thanked the lecturer very much for his lecture and slides.

ULUBERIA BRANCH –A meeting was held on 12-11-60. Ten members were present. Dr. K. P. Mitra presided. Dr. D. N. Roy Choudhury from Calcutta attended as an invited guest. The secretary's report for 1959-60 was adopted. Six clinical meetings were held during the year 1959-60 and WHO day was observed. Office-bearers for 1960-61 were elected with Dr. K. L. Basu Mallick as president; Dr. K. P. Mitra as vice-president; Dr. P. Chatterjee as secretary; Dr. B. Mondal as jt. secretary and treasurer; Dr. P. Chatterjee as representative to Central Council; Dr. K. P. Mitra, Dr. D. N. Das and Dr. P. Chatterjee as representative to the provincial council. A clinical lecture on Early Diagnosis of Pulmonary Tuberculosis was given by Dr. D. N. Roy Choudhury of Calcutta.

UNNAO BRANCH—A meeting was held on 31-7-60. Dr. K. D. Jain presided. A discussion was held on the Pyloric Construction in New-borns (3 weeks). Election of the president, vice-president of I.M.A. Central was held.

A meeting was held on 27-8-60. Dr. K. D. Jain presided. Ten members attended. A discussion was held on the present condition of the medical profession in the society.

The monthly meeting of the branch was held on 19-10-60. Dr. K. D. Jain presided. Eleven members were present. Discussions were held on Infective Hepatitis, and Amoebic Abscess, Vesicular Moles were shown removed from a patient.

A meeting was held on 26-11-60. Dr. K. D. Jain presided. Ten members were present. The members bid farewell to Dr. K. L. Sharma on his transfer to Barabanki. The last year's office-bearers were re-elected for 1960-61.

WARANGAL BRANCH—A dinner meeting was held on 17-12-60. Lt. Col. V. Srinivasan, Director General of Health Services, Government of India, Dr. Ramakrishnan of National Malaria Institute and Major K. N. Rao were the guests. Dr. T. S. Murthy presided, Dr. T. Lakshminarayana, Principal, Warangal Medical College introduced the guests.

Lt. Col. Srinivasan in his address solicited the co-operation of the medical profession in the implementation of the various schemes introduced and contemplated to be introduced. Dr. Ramakrishnan described the working of the National Malaria Eradication programme and asked for doctors' co-operation. He also said that free medicine will be distributed to the doctors for use in Malaria cases. Dr. M. V. R. Acharyulu, hony. secretary proposed the vote of thanks.

IV KERALA STATE MEDICAL CONFERENCE, 1961, PALGHAT, KERALA

The 4th Kerala State Medical Conference will be held on 5-6 March 1961, at the District Hospital Campus, Palghat. The Governor of Kerala has kindly consented to inaugurate the conference in the forenoon of March 5, 1961. Further details from Secretary of the Conference, Palghat, Kerala State.

Particulars of the Journal of the Indian Medical Association as per Form IV under Rule 8 of the Registration of Newspapers (Central) Rules, 1956

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I, Sri Tarani Kanta Basu of 23, Samavaya Mansions, Corporation Place, Calcutta 13, hereby declare that the particulars given above are true to the best of my knowledge and belief.

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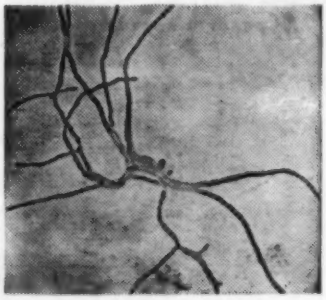

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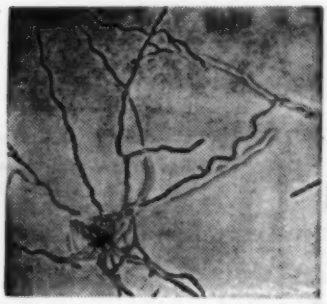

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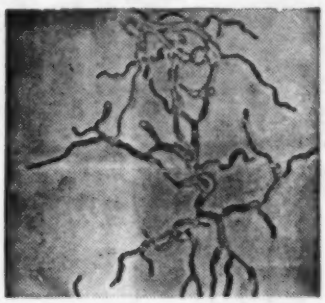

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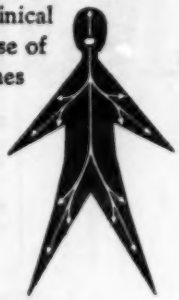

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